

HALLIBURTON

SPECTRAL DENSITY DUAL SPACED NEUTRON LOG

COMPANY	CHESAPEAKE OPERATING INC		
WELL	DANIELSON 25-34-8 #1H		
FIELD	PRATT SOUTH		
COUNTY	HARPER		
STATE	KANSAS		
COMPANY	CHESAPEAKE OPERATING INC	WELL	DANIELSON 25-34-8 #1H
FIELD	PRATT SOUTH	COUNTY	HARPER
COUNTY	HARPER	STATE	KANSAS
API No.	15-077-21749	Location	200' FSL & 660' FEL
Sect.	25	Twp.	34S
Rge.	8W	Elev.	1312.0 ft
Other Services:	WSTT ACRT IDT ICT		

Permanent Datum	GL	Elev.	K.B.	1327.0 ft
Log measured from	KB		D.F.	1326.0 ft
Drilling measured from	KB	15.0 ft above perm. Datum	G.L.	1312.0 ft

Date	11-May-12	
Run No.	ONE	
Depth - Driller	5245.00 ft	
Depth - Logger	5235.0 ft	
Bottom - Logged Interval	5152.0 ft	
Top - Logged Interval	752.0 ft	
Casing - Driller	9.625 in @ 755.0 ft	
Casing - Logger	752.0 ft @	
Bit Size	8.750 in @	
Type Fluid in Hole	WATER @	
Density	9.1 ppg	63.00 s/qt
PH	10.00 pH	8.0 op/m
Source of Sample	FLOWLINE	
Rm @ Meas. Temperature	0.560 ohmm	@ 75.00 degF
Rmf @ Meas. Temperature	0.37 ohmm	@ 75.00 degF
Rmc @ Meas. Temperature	0.750 ohmm	@ 75.00 degF
Source Rmf	MEAS	MEAS
Rm @ BHT	0.35 ohmm	@ 125.0 degF
Time Since Circulation	6.0 hr	
Time on Bottom	11-May-12 21:27	
Max. Rec. Temperature	125.0 degF	@ 5245.0 ft
Equipment	336	LIBERAL
Recorded By	J. BOLLUM	
Witnessed By	H. KIRKMAN	

Fold here

Service Ticket No.: 9504692 API Serial No.: 15-077-21749 PGM Version: WL INSITE R3.4.2 (Build 2)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE				RESISTIVITY SCALE CHANGES			
Date	Sample No.			Type Log	Depth	Scale Up Hole	Scale Down Hole
Type Fluid in Hole							
Density	Viscosity						
Ph	Fluid Loss						
Source of Sample				RESISTIVITY EQUIPMENT DATA			
Rm @ Meas. Temp	@	@		Run No.	Tool Type & No.	Pad Type	Tool Pos.
Rmf @ Meas. Temp.	@	@					
Rmc @ Meas. Temp.	@	@					
Source Rmf	Rmc						
Rm @ BHT	@	@					
Rmf @ BHT	@	@					
Rmc @ BHT	@	@					
EQUIPMENT DATA							
GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.	ONE	Run No.	ONE
Serial No.	11021039	Serial No.		Serial No.	I947M315	Serial No.	11023947
Model No.	GTET	Model No.		Model No.	SDLT-I	Model No.	DSNT-I
Diameter	3.625"	No. of Cent.		Diameter	4.5"	Diameter	3.625"
Detector Model No.	GTET	Spacing		Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	CS137	Source Type	AM241BE
Length	8'	LSA [Y/N]		Serial No.	5155GW	Serial No.	DSN 439
Distance to Source	10'	FWDA [Y/N]		Strength	1.5 CI	Strength	15 CI

LOGGING DATA

GENERAL GAMMA ACOUSTIC DENSITY NEUTRON

Run No.	GENERAL		Speed ft/min	GAMMA		ACOUSTIC		Matrix	DENSITY		NEUTRON		Matrix	
	Depth			L	R	L	R		Scale		Matrix	Scale		
	From	To							L	R		L		R
ONE	5235	752	REC	0	150				30	-10	2.71	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation @ KOP @

Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5-INCH CASING

LCM REPORTED AT 12 LB/BBL

CHLORIDES REPORTED AT 4200 PPM

AFE# 156854

PN# 639215

TODAY'S CREW: F. VILLA & M. PHELAN

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES LIBERAL, KS. 620-624-8123

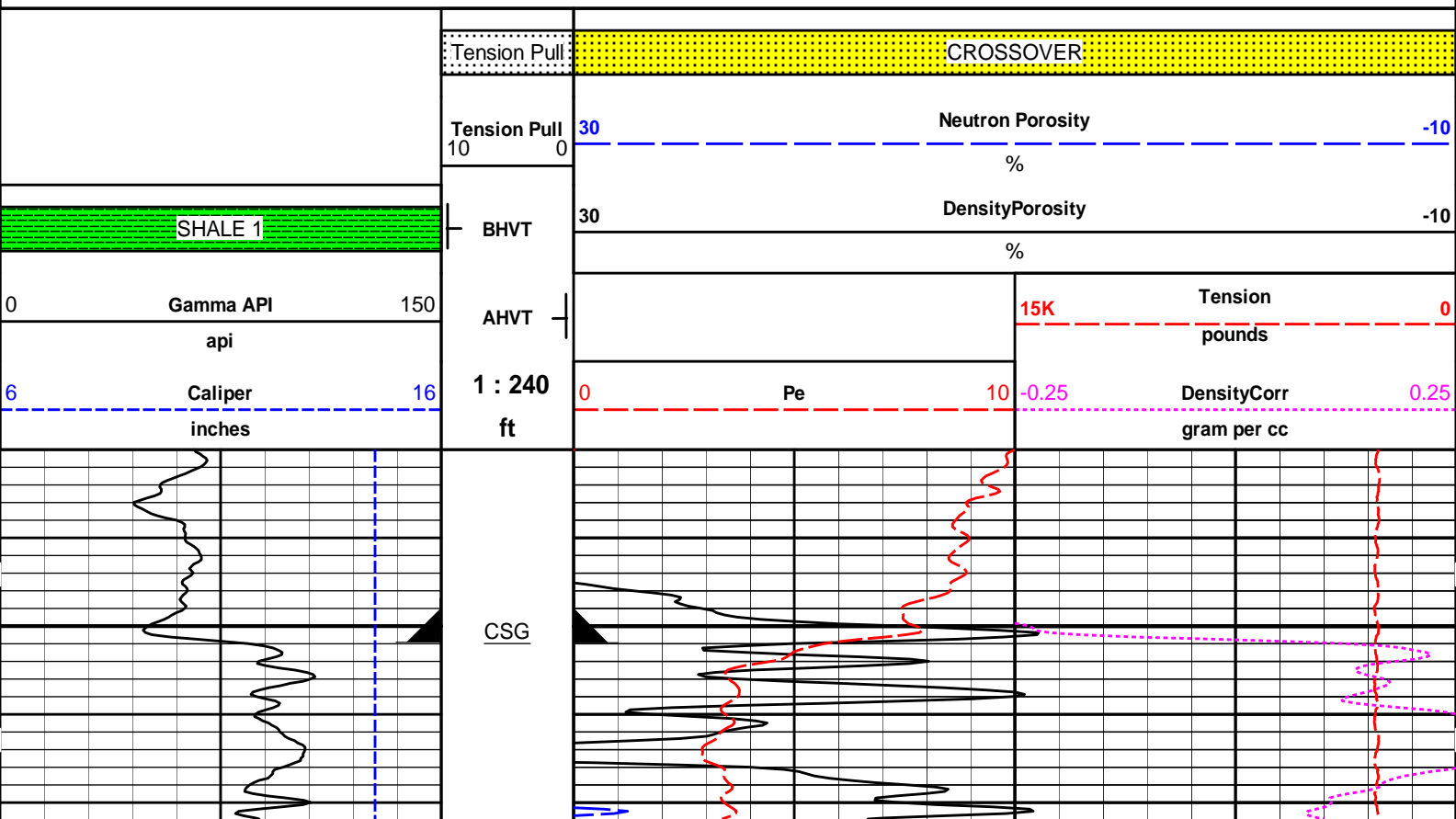
HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

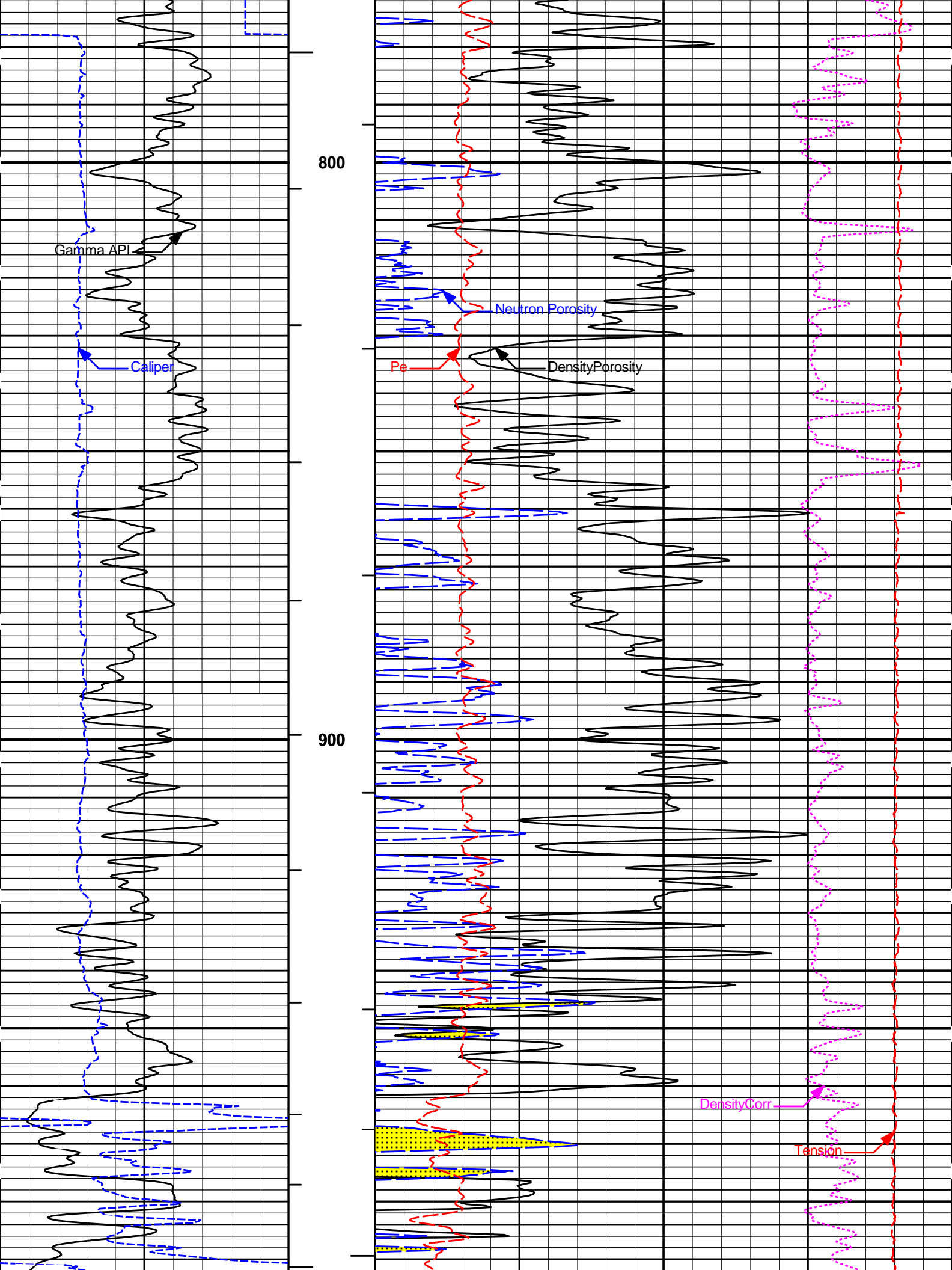
HALLIBURTON

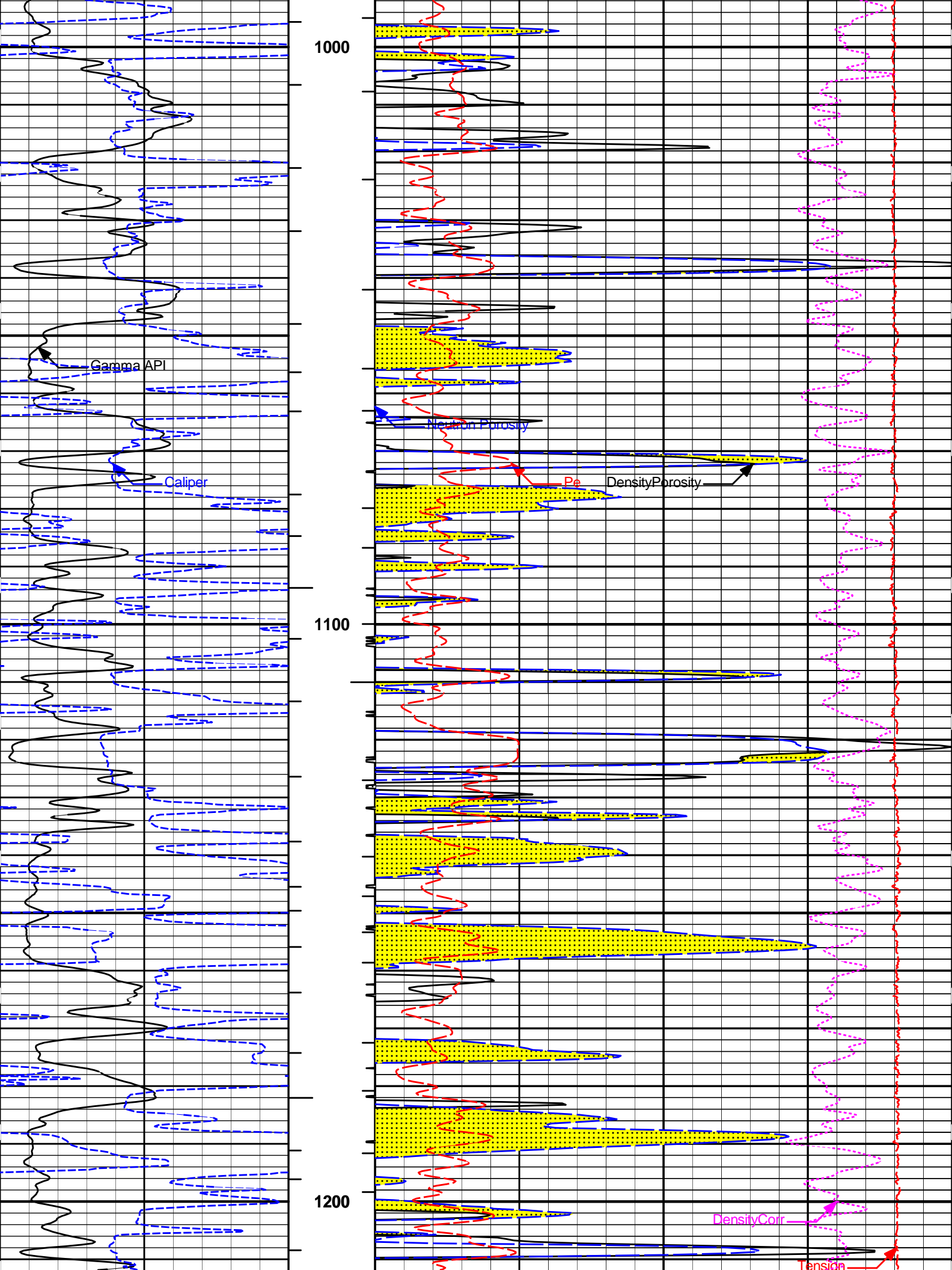


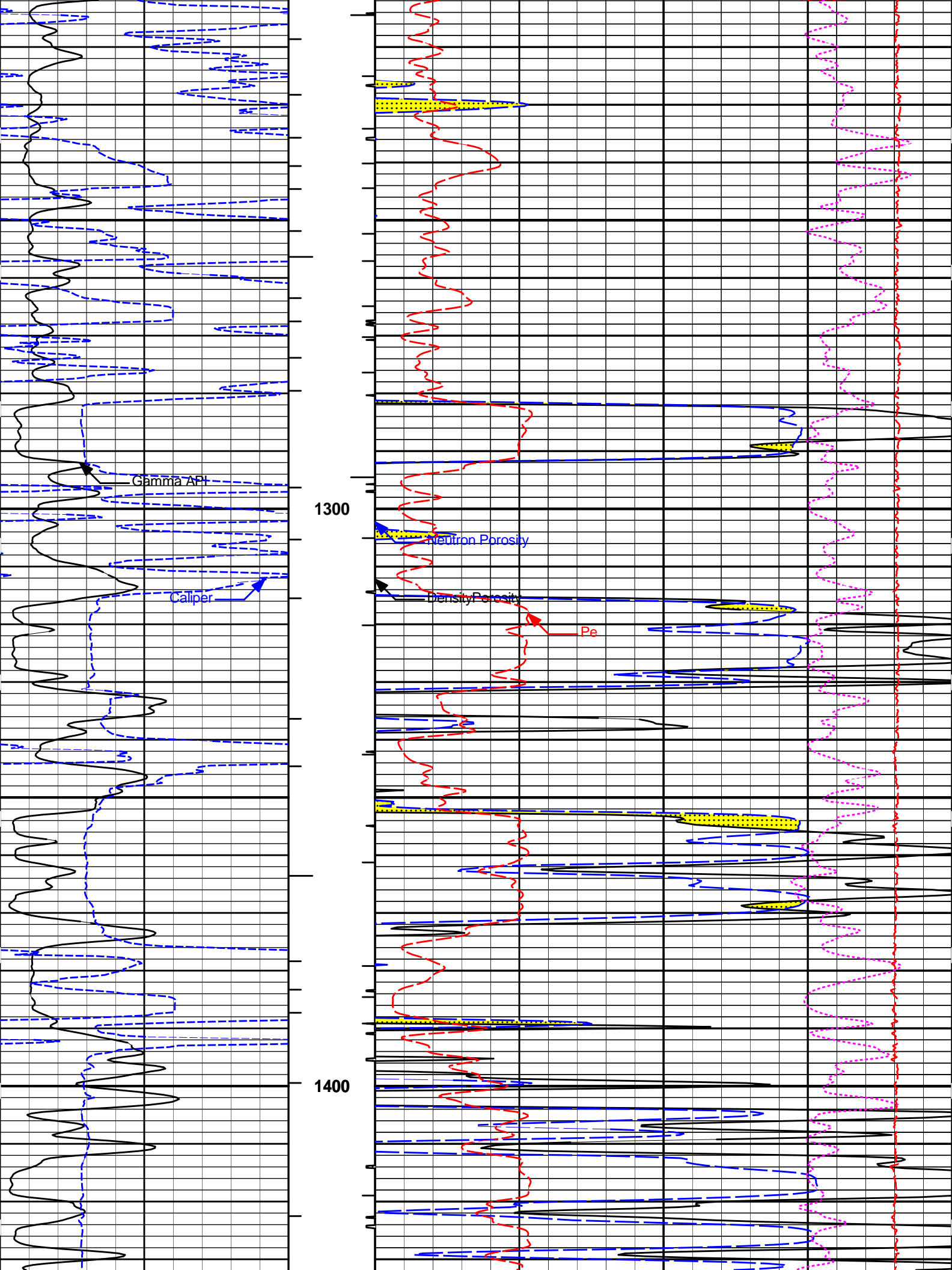
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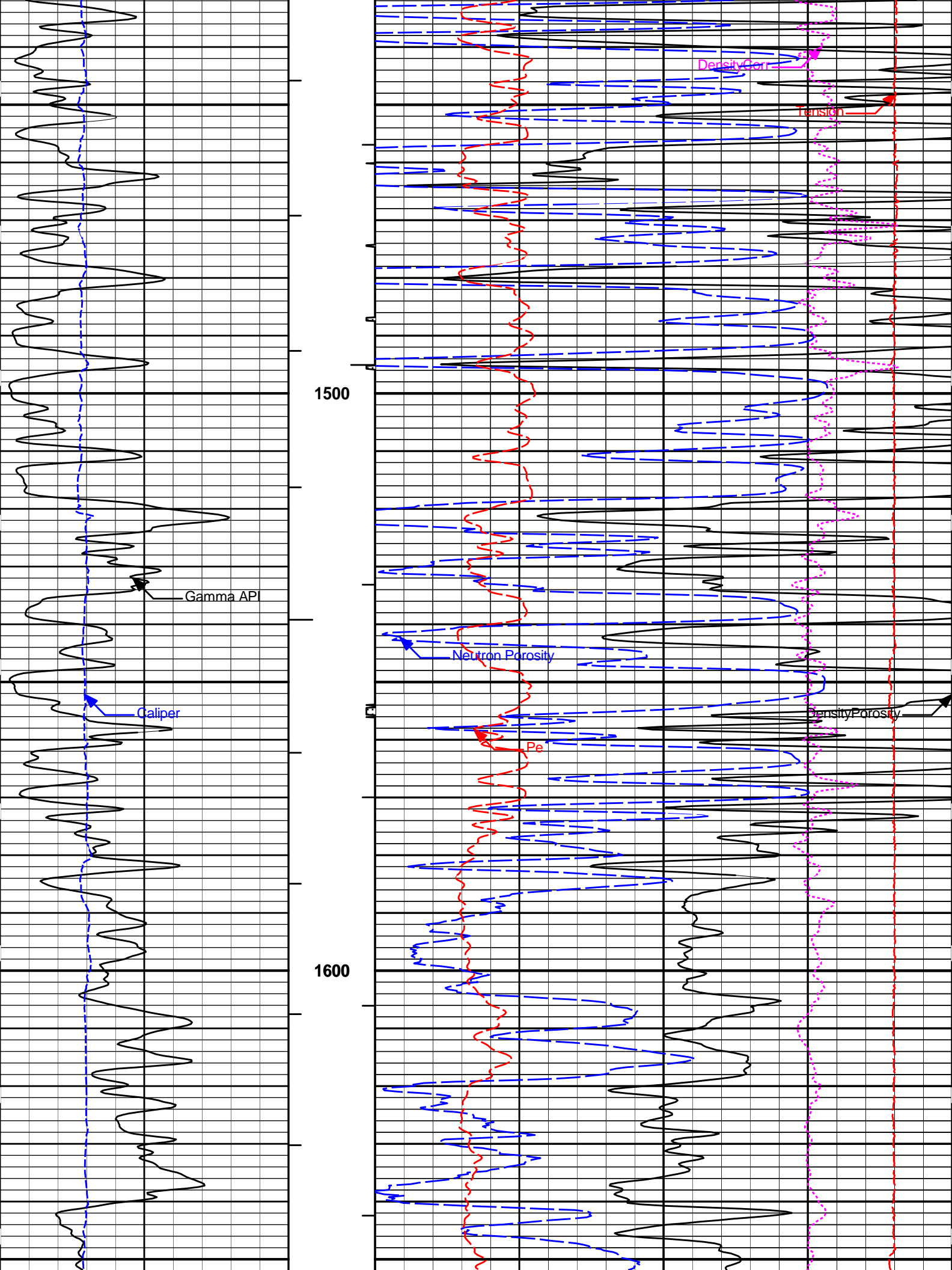
5 INCH MAIN LOG

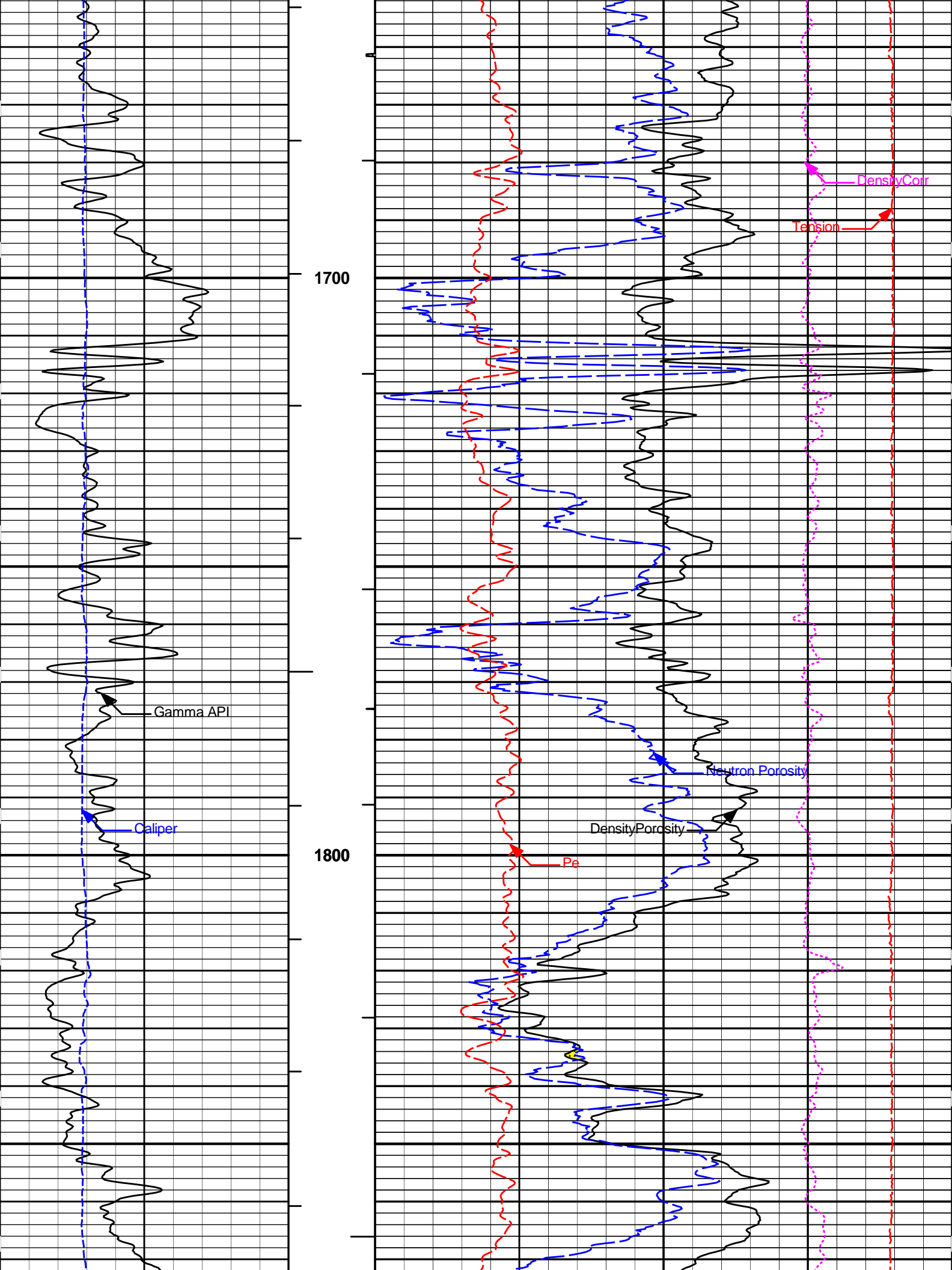


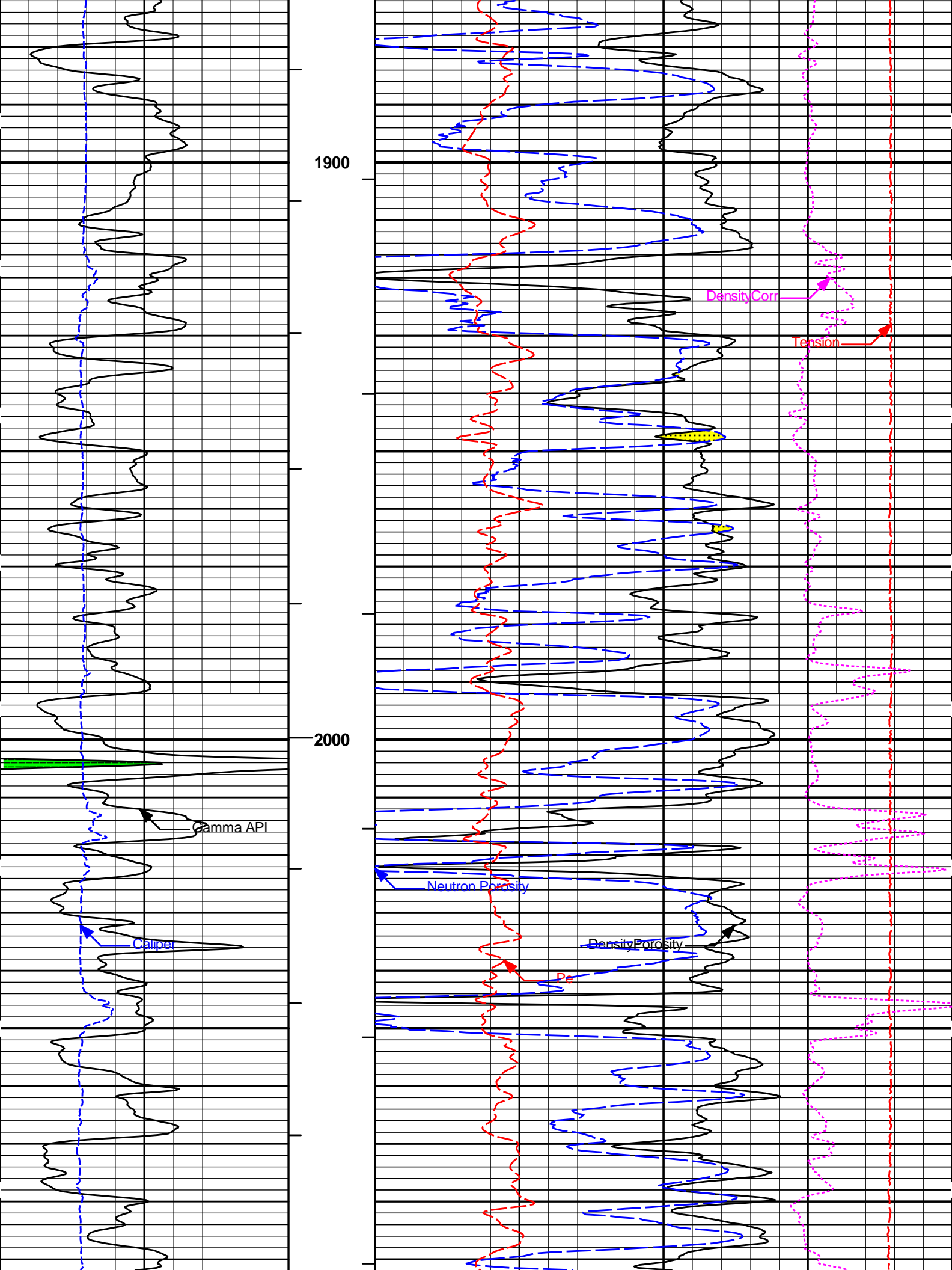


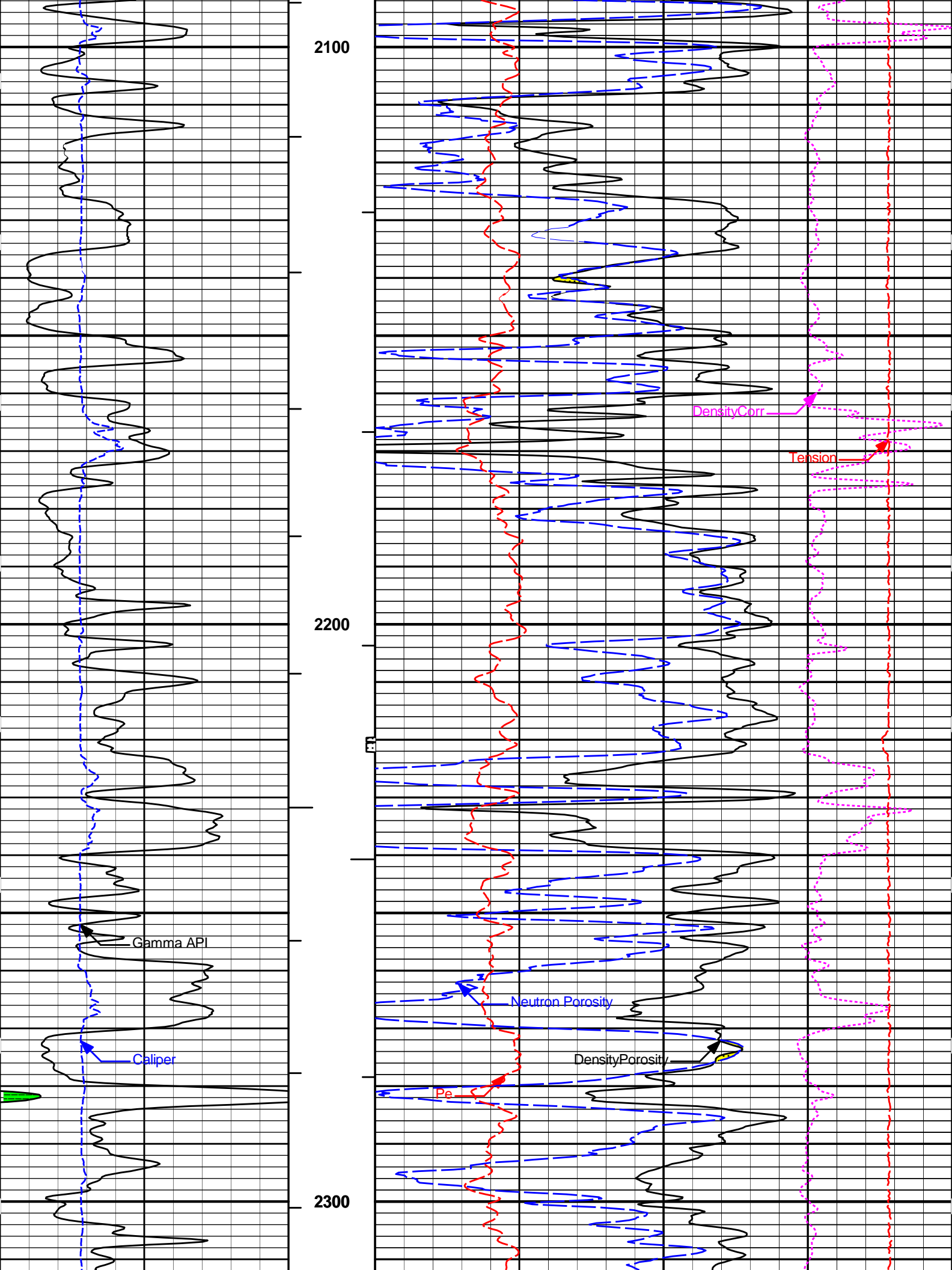


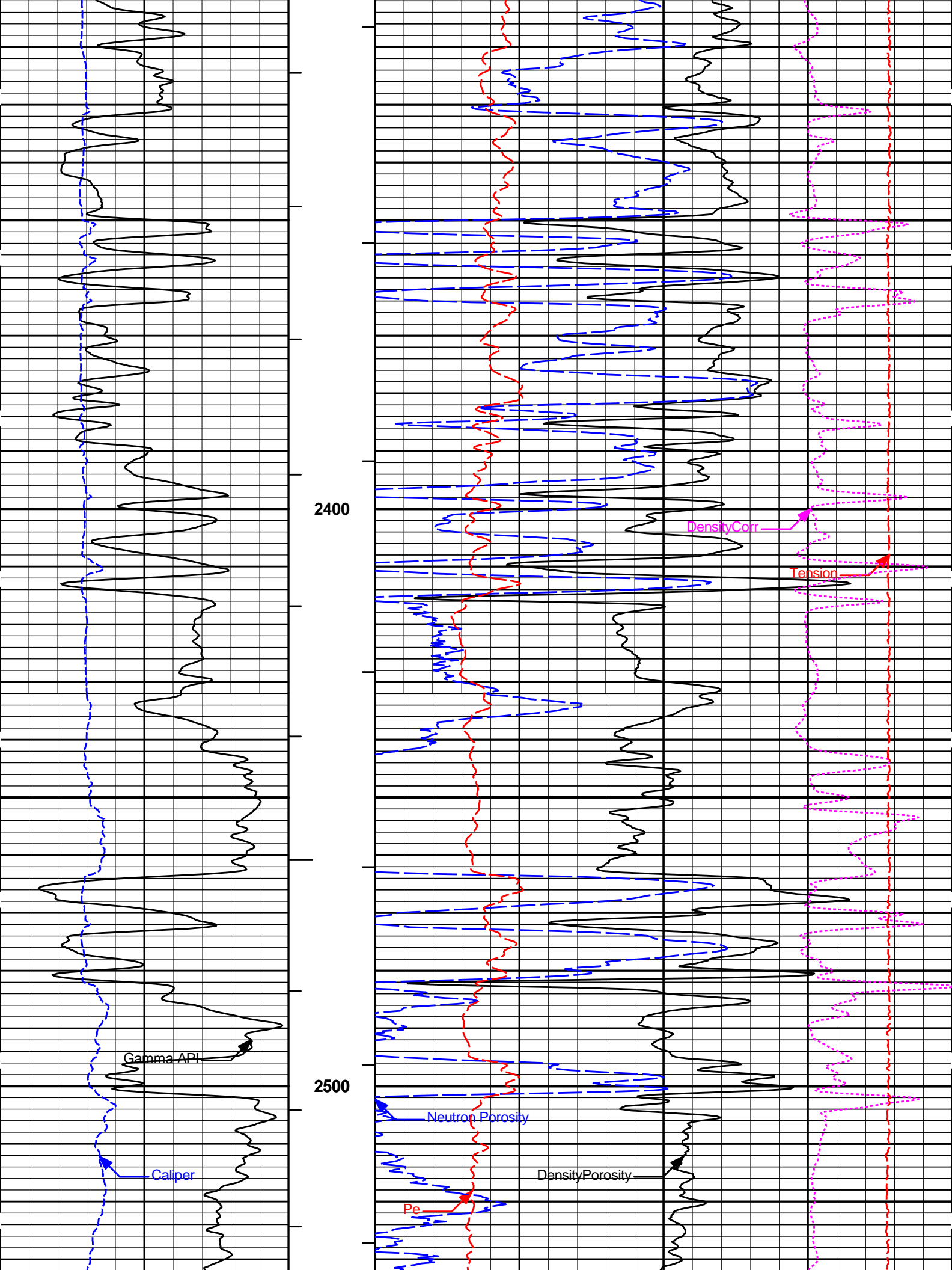


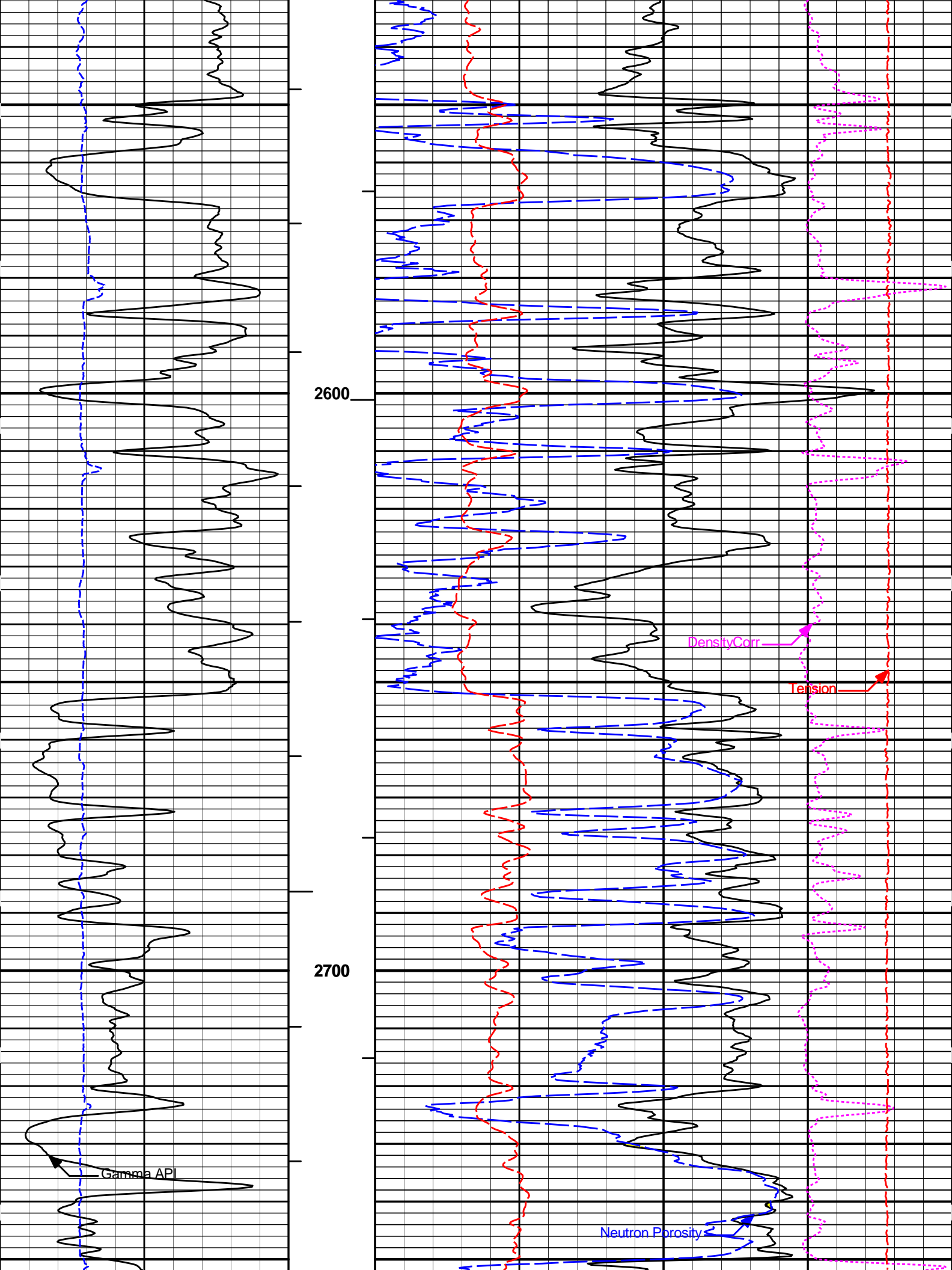


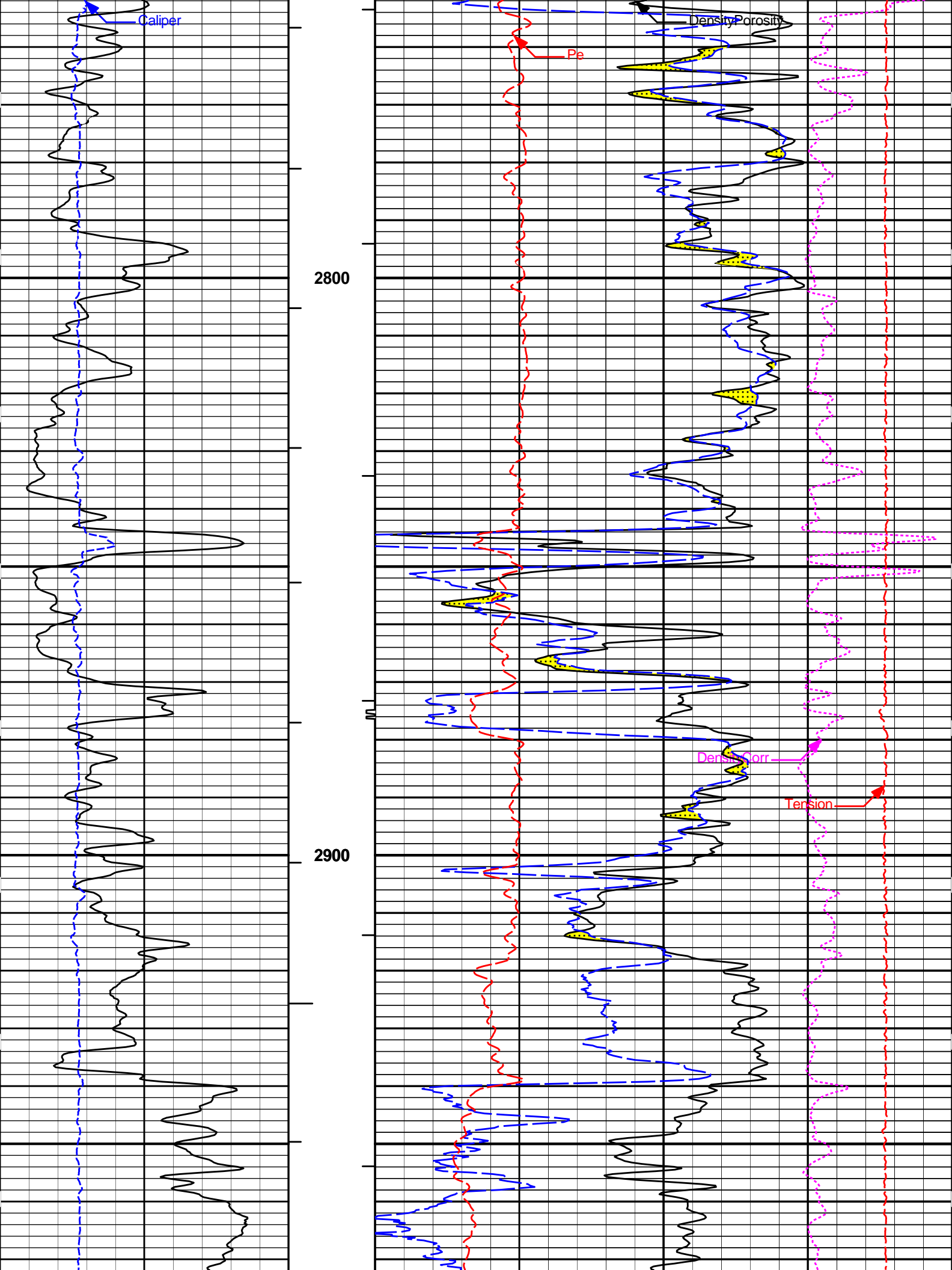


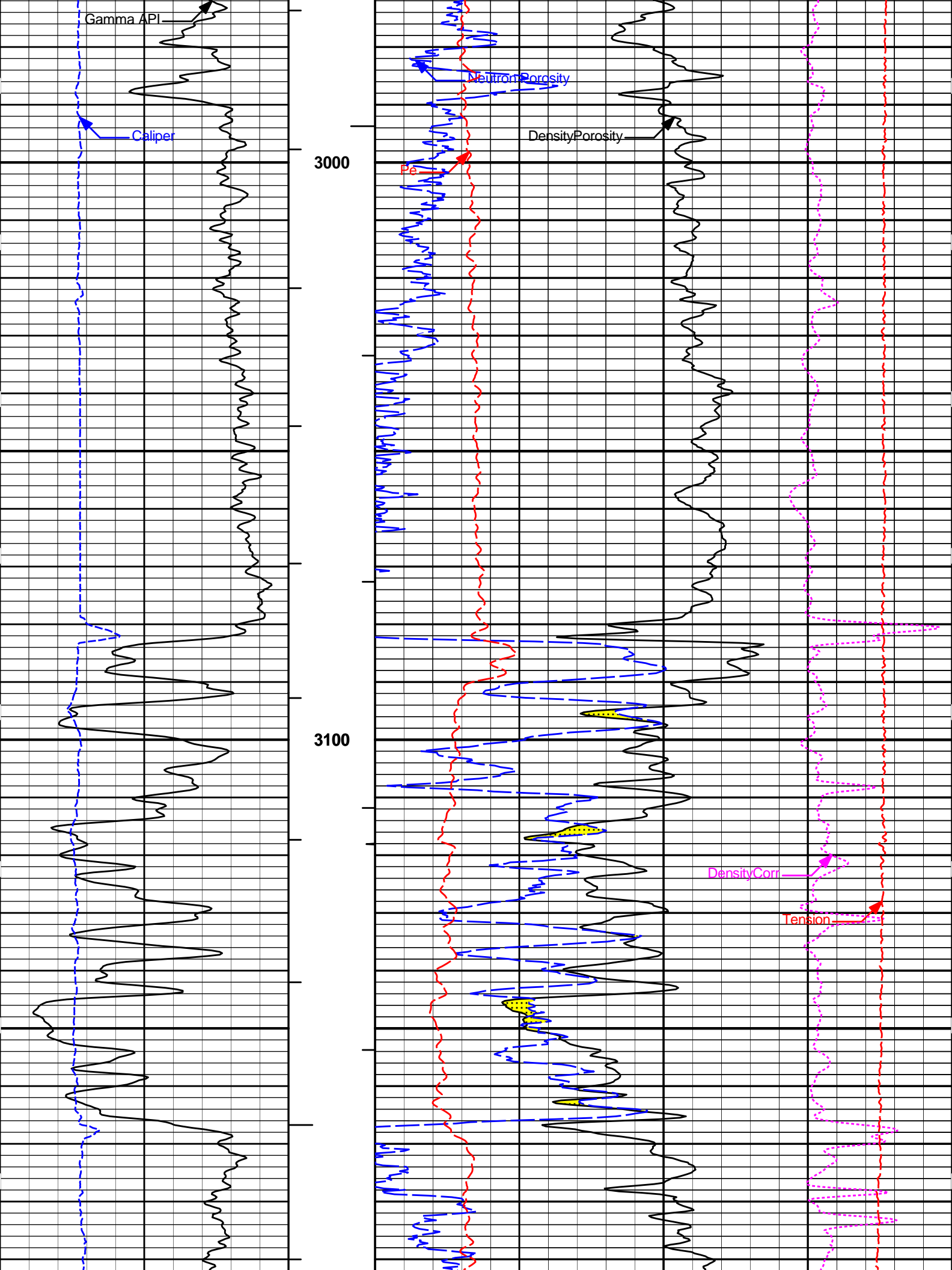


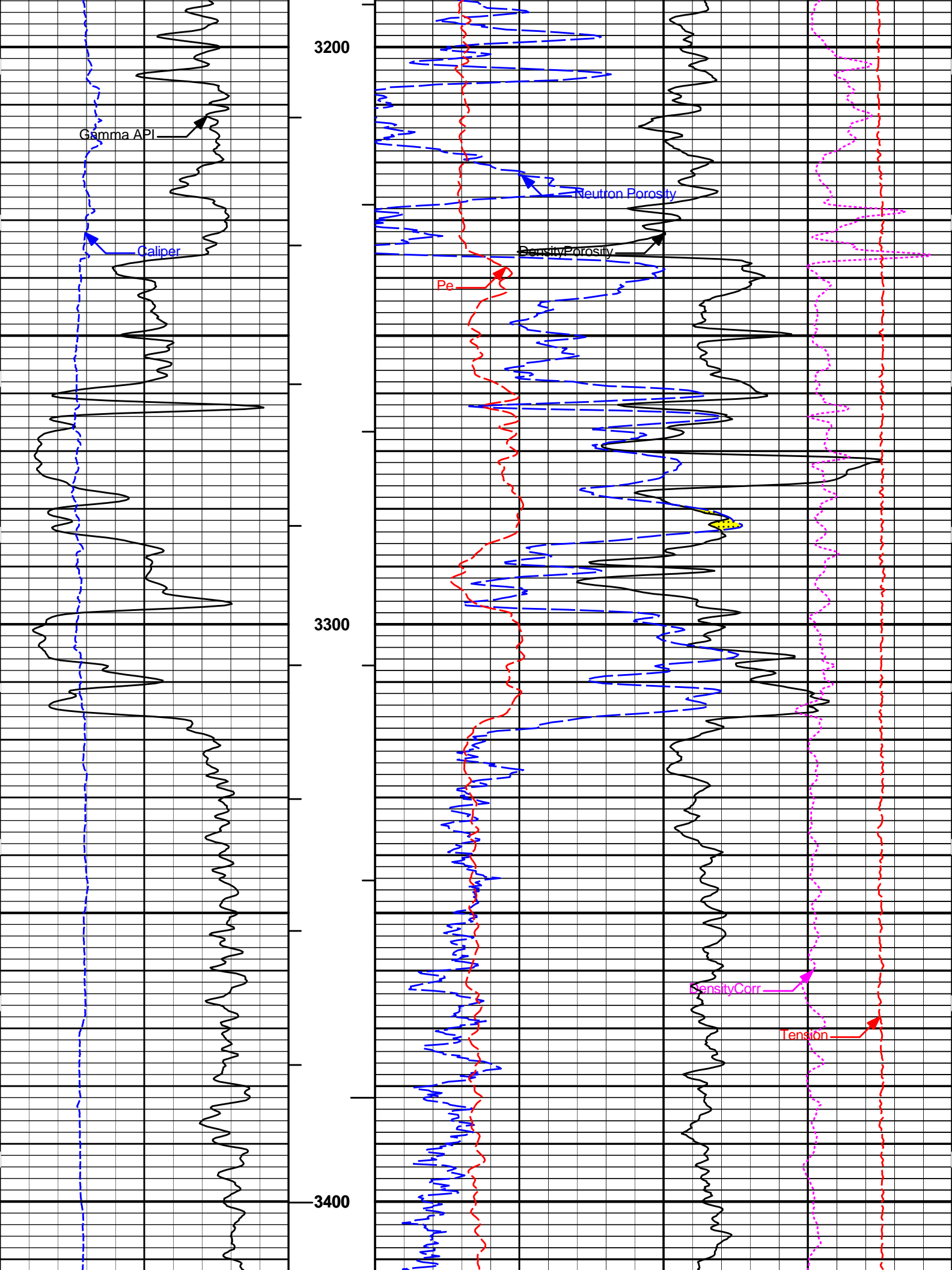


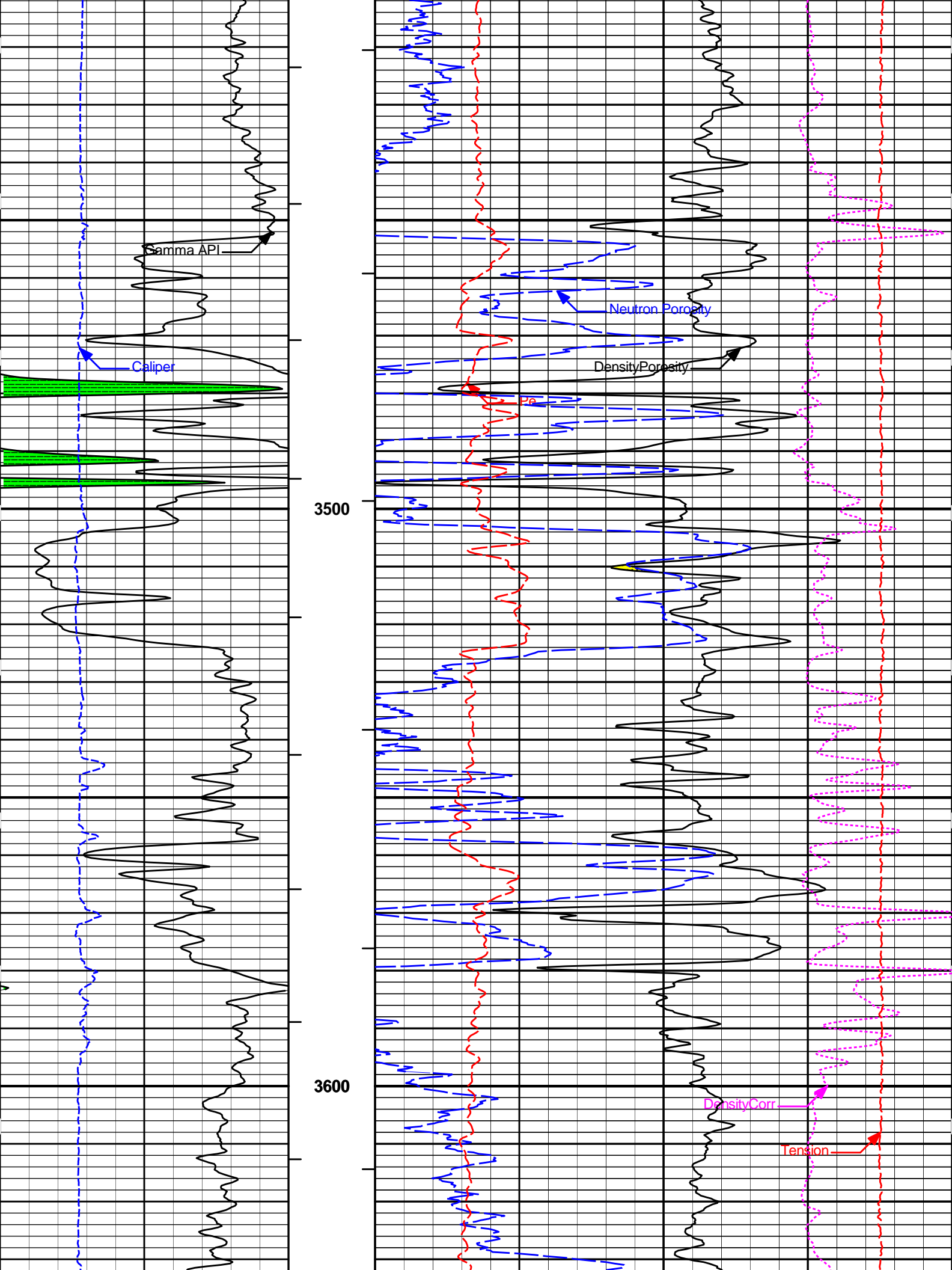


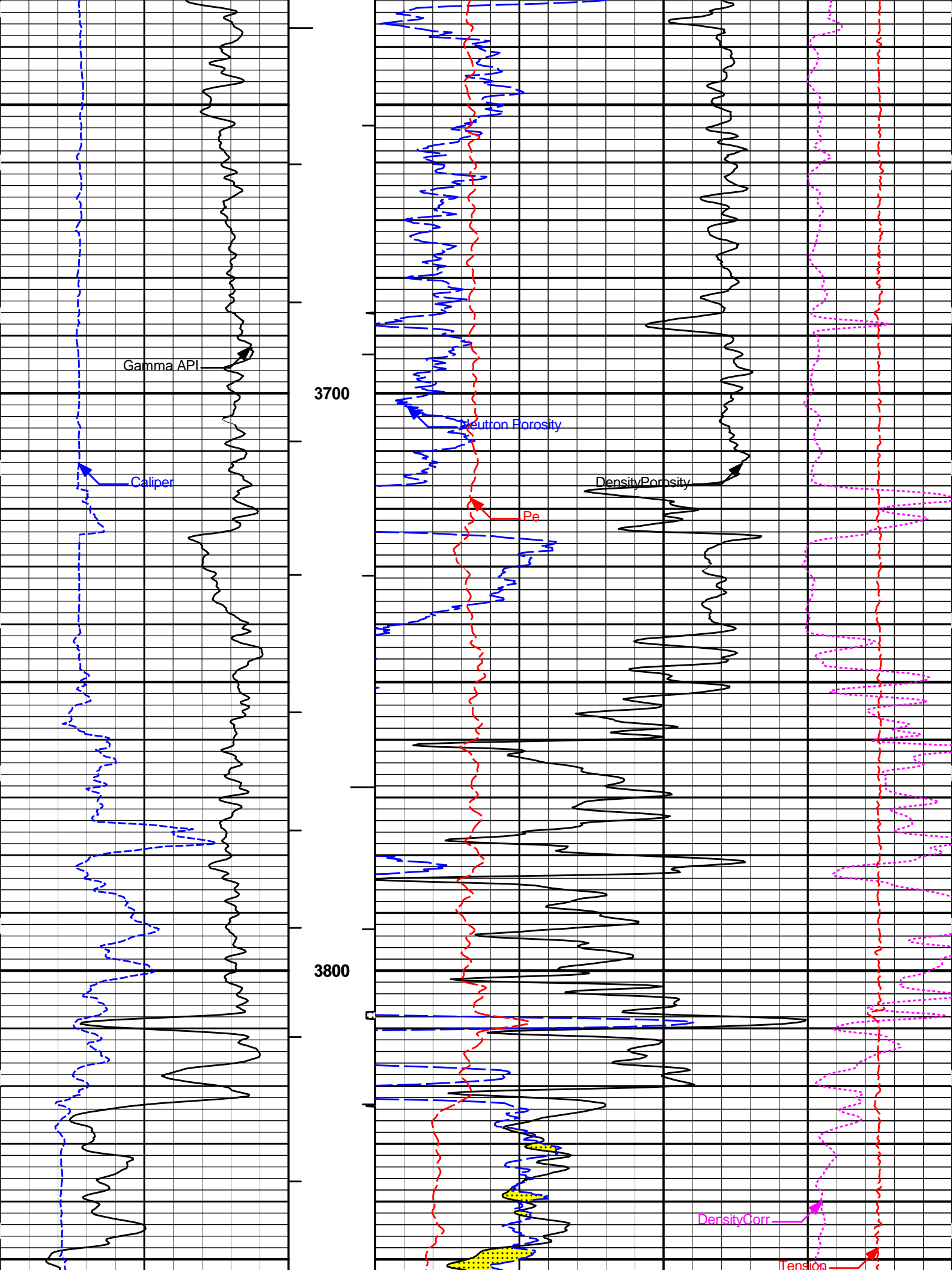


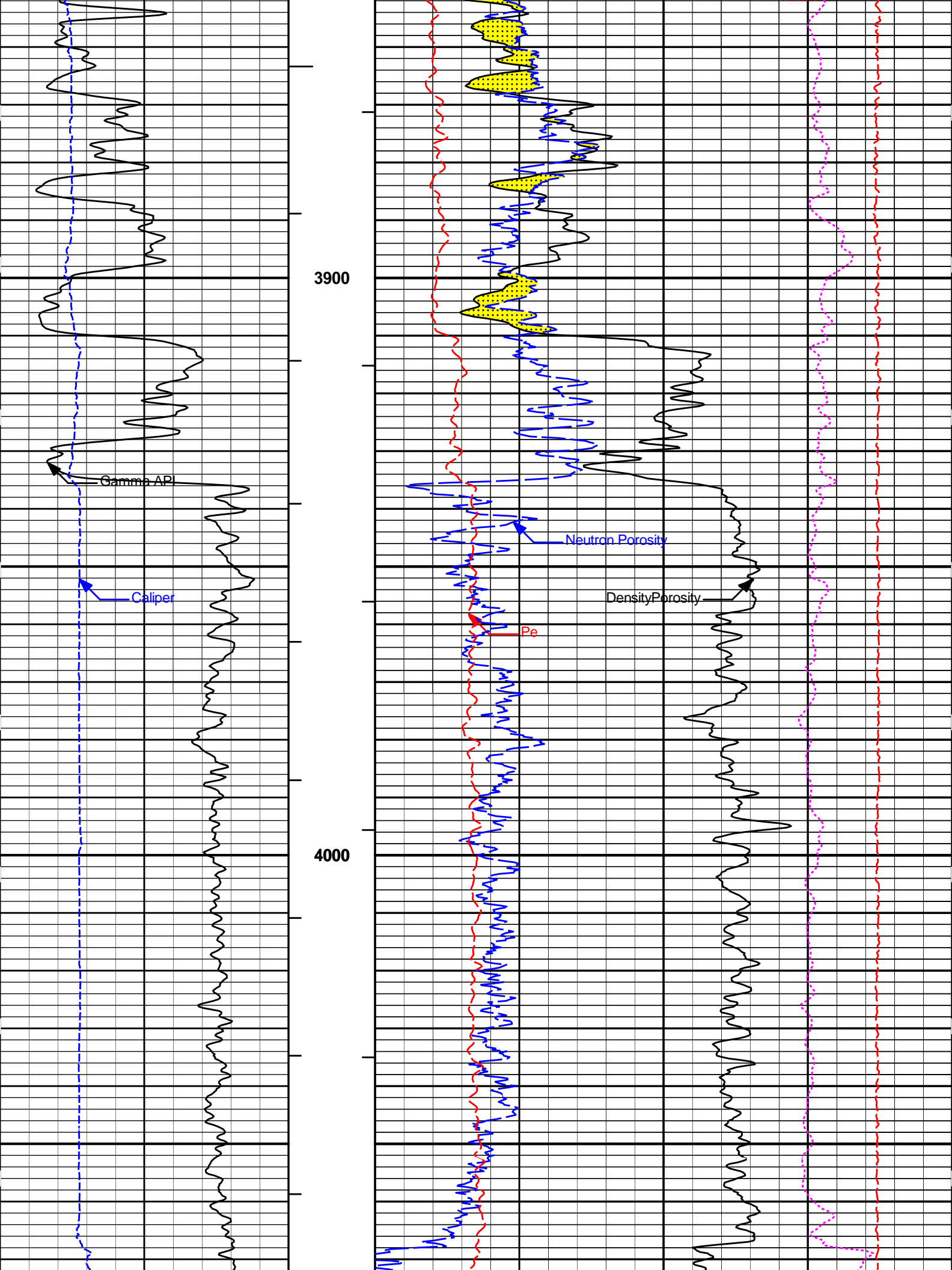


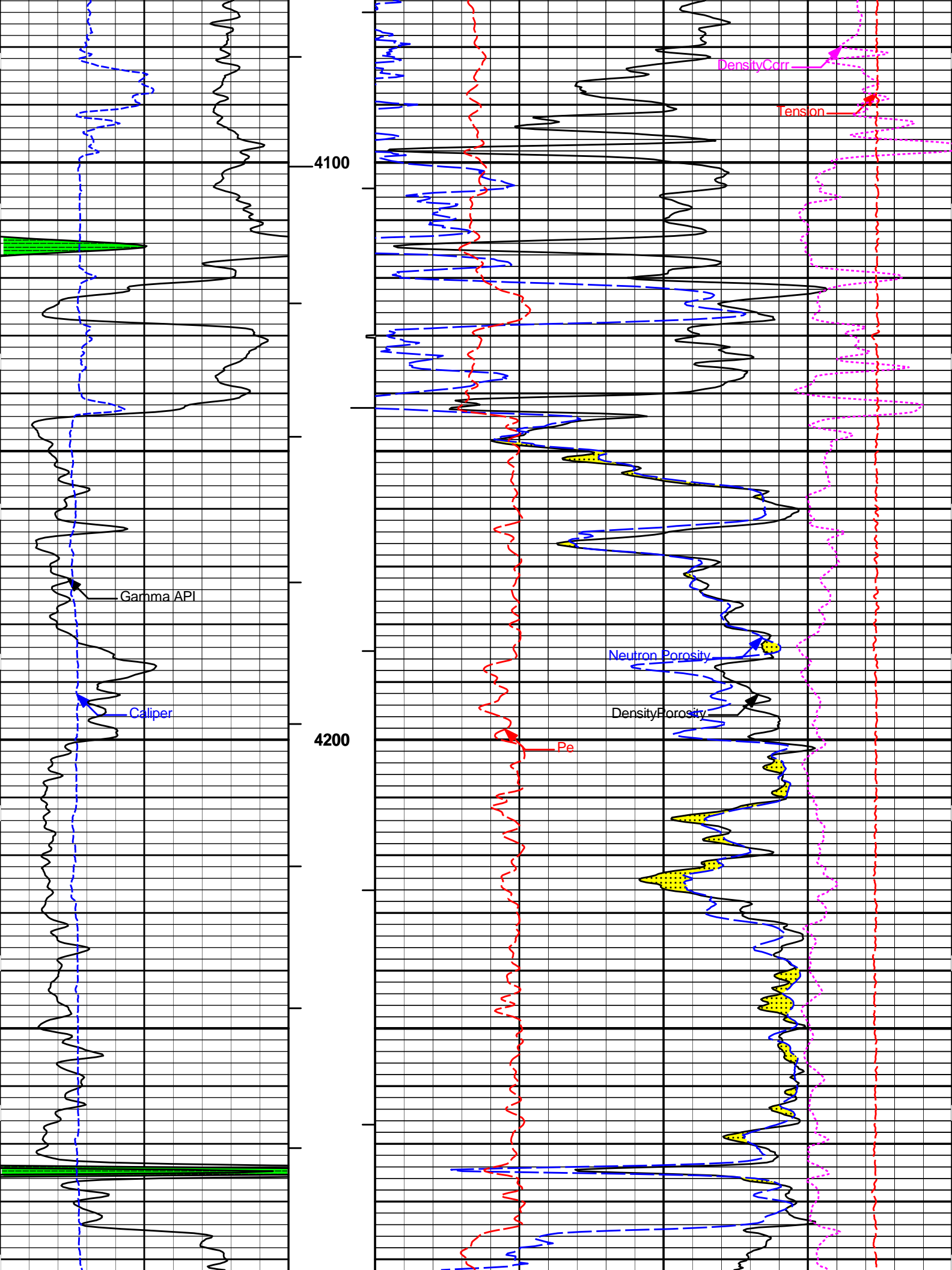


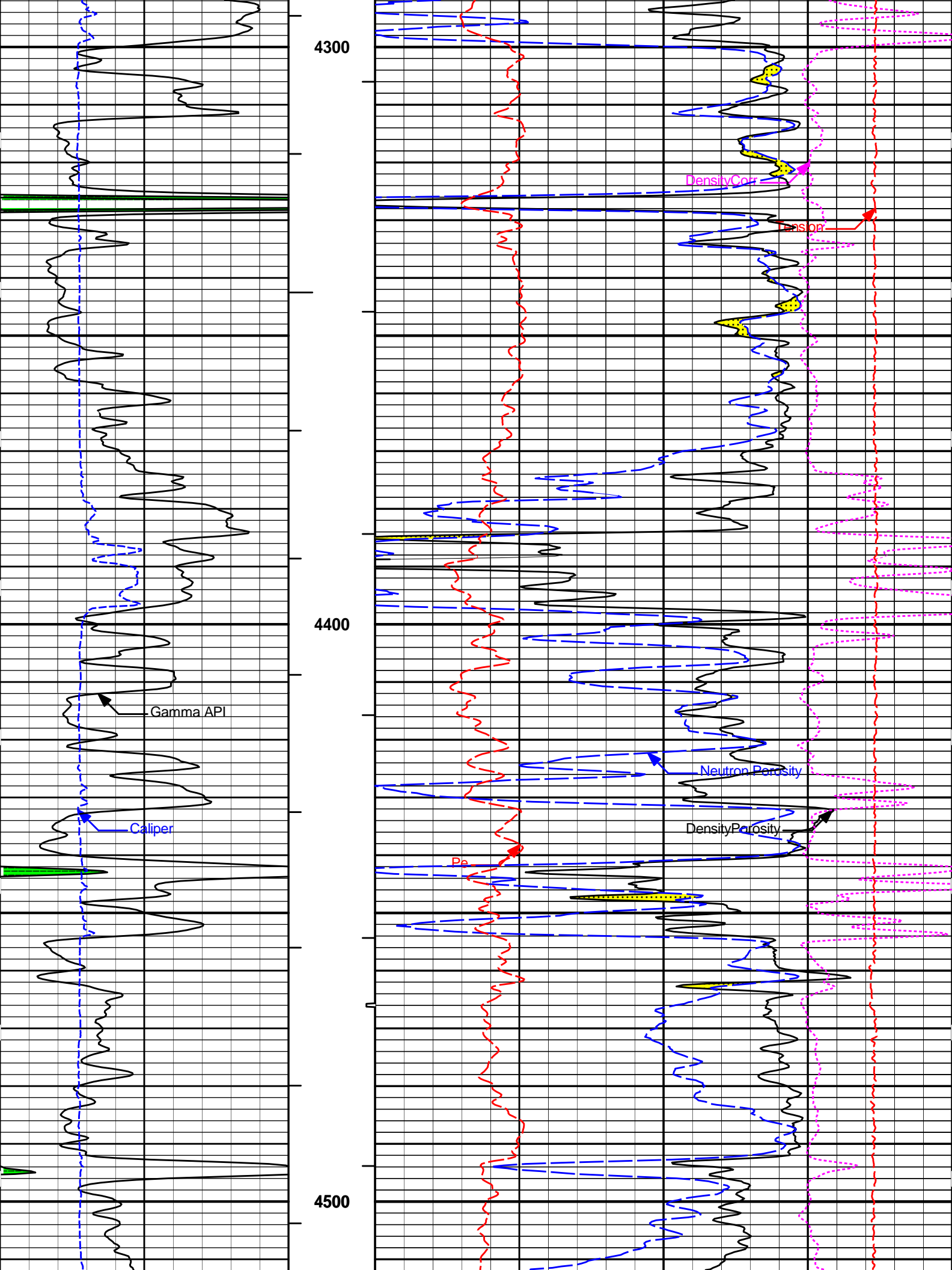


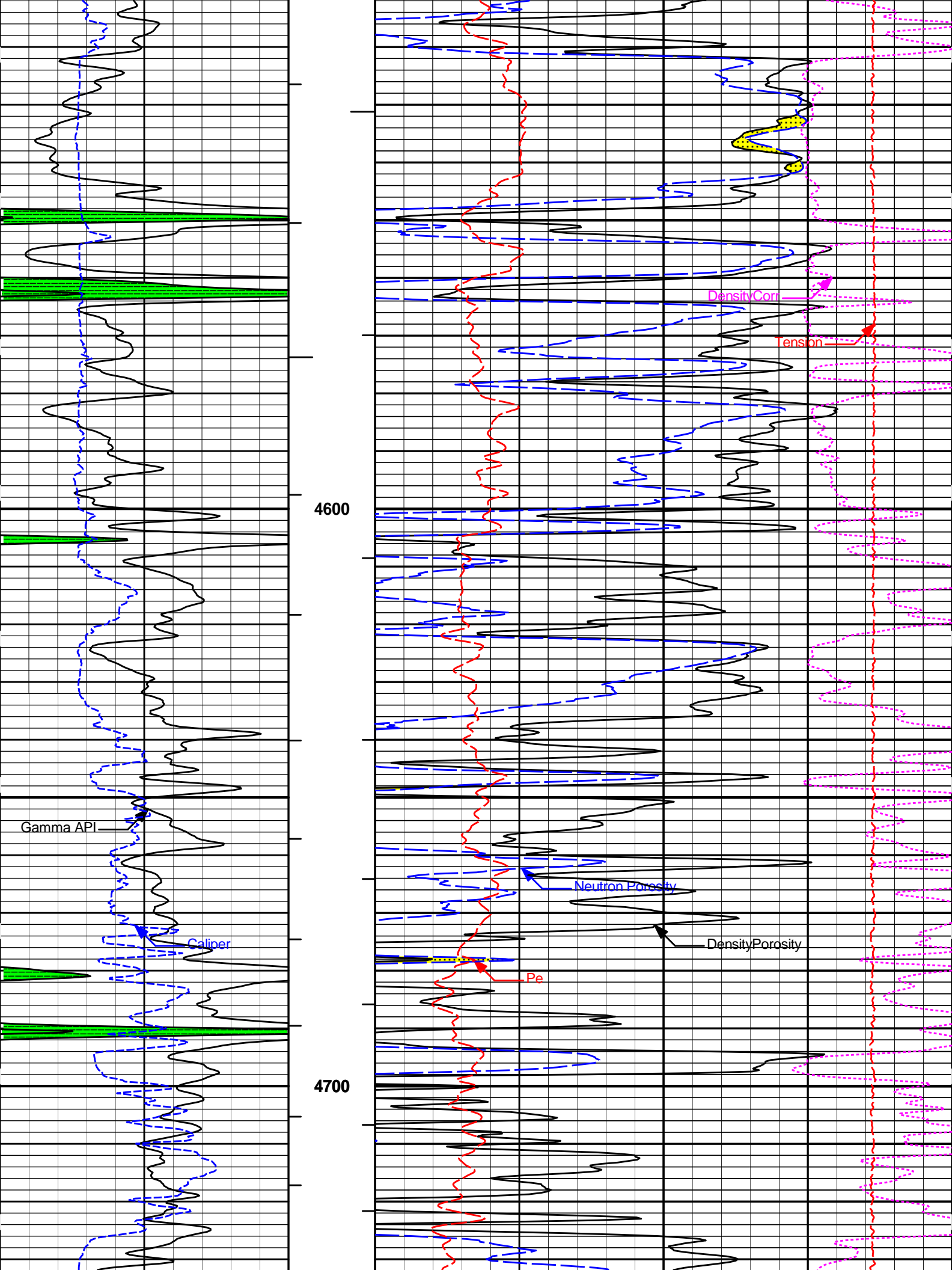


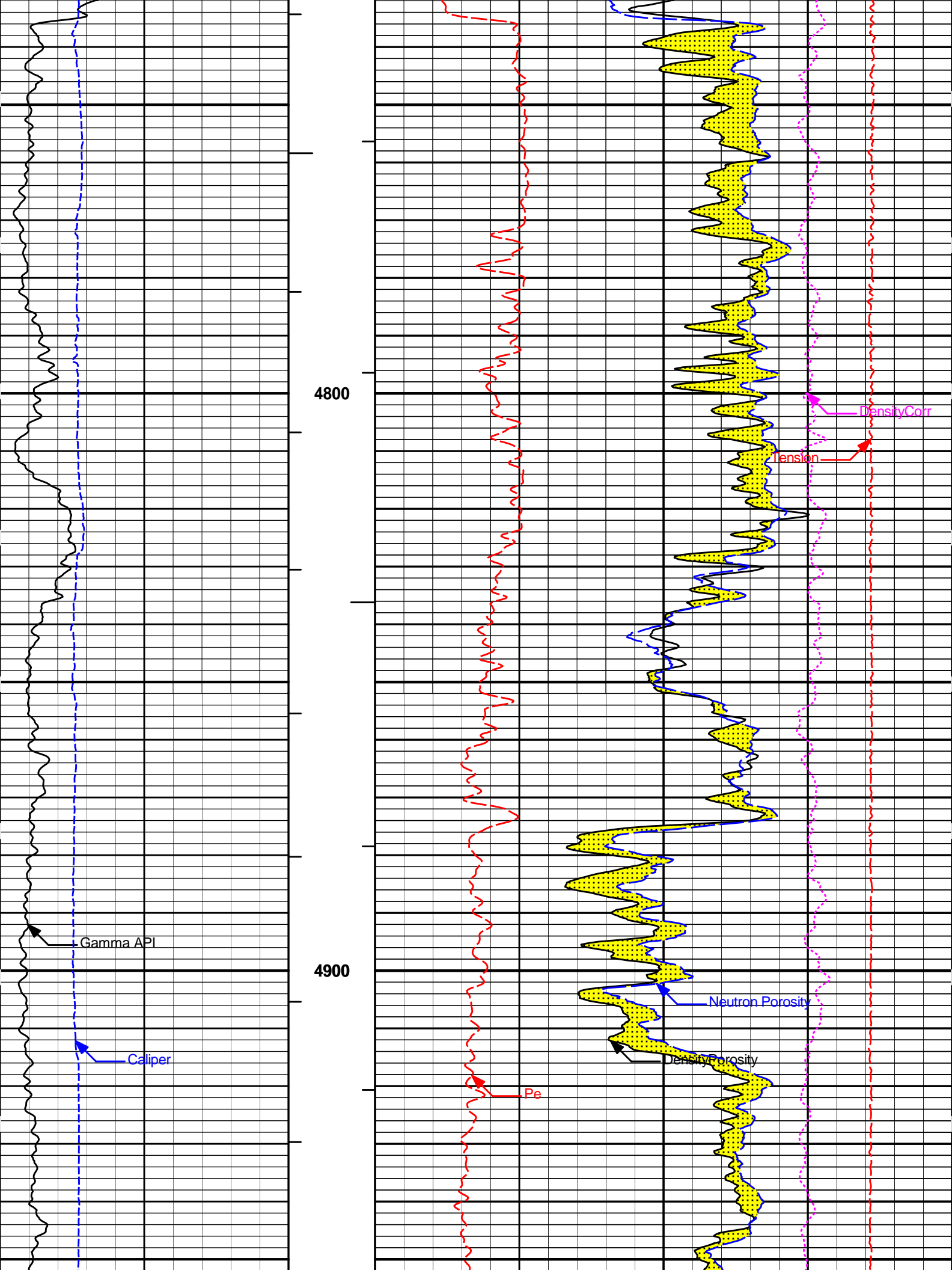


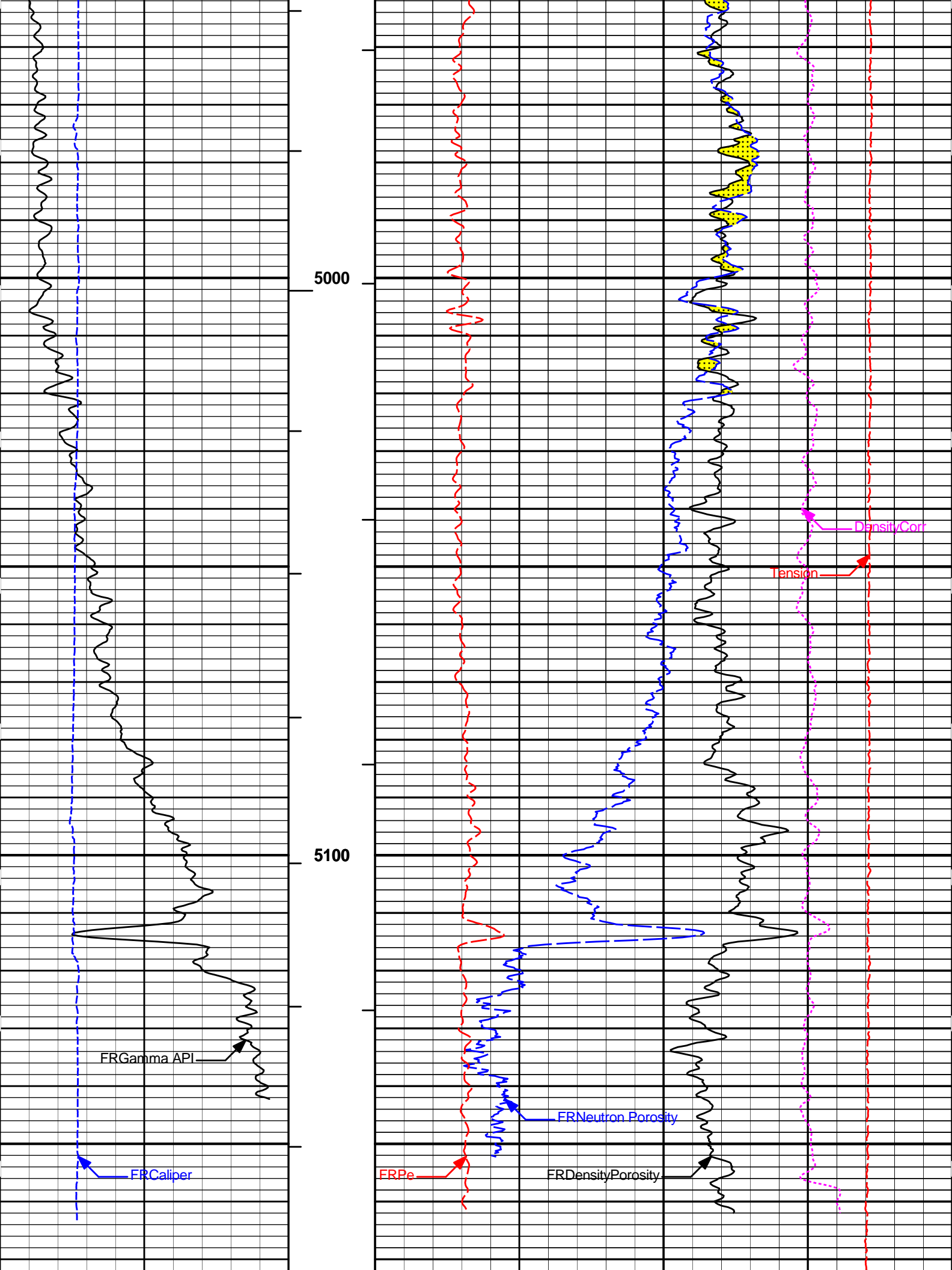


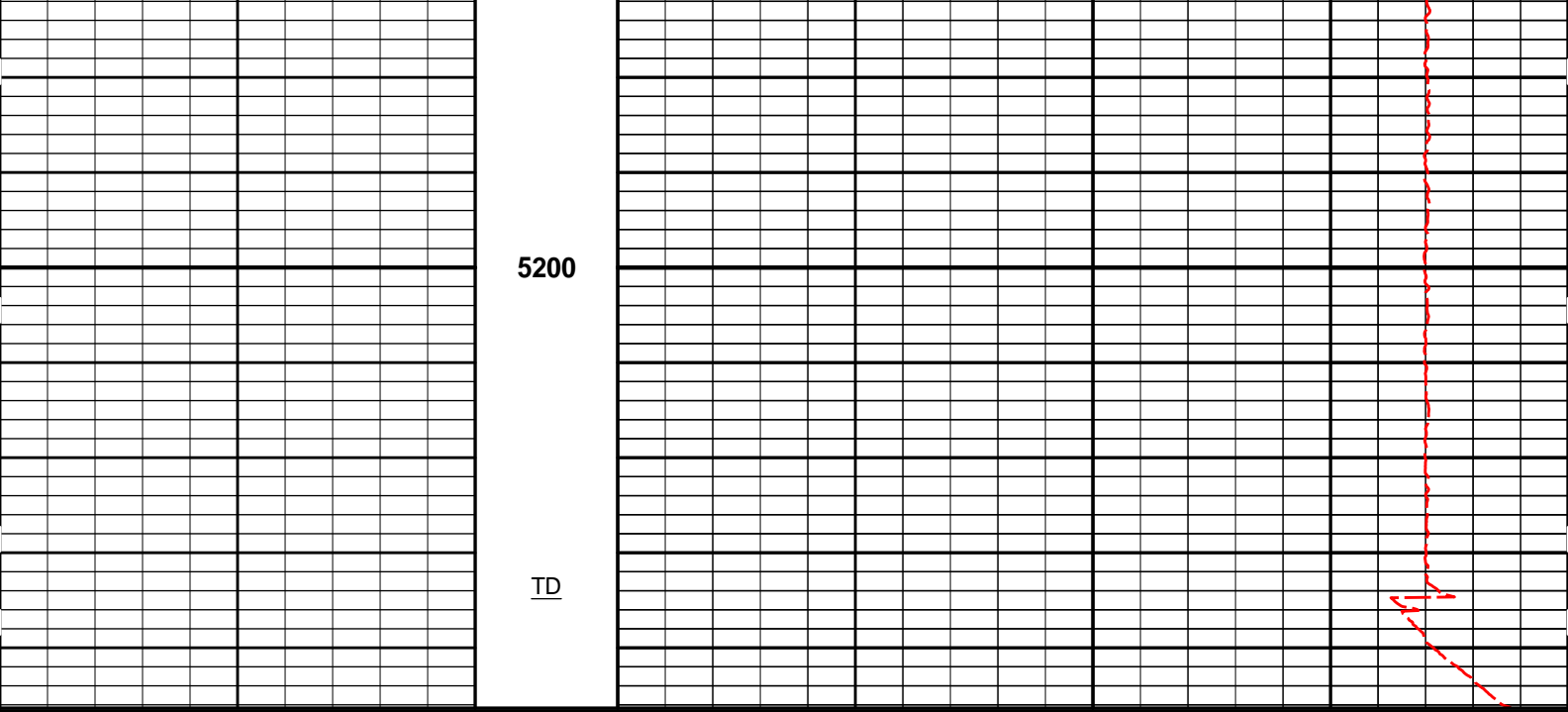












5200

TD

6	Caliper	16	1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches		ft					gram per cc	
0	Gamma API	150	AHVT				15K	Tension	0
	api							pounds	
	SHALE 1		BHVT	30	DensityPorosity				-10
					%				
			Tension Pull	30	Neutron Porosity				-10
			10	0	%				
			Tension Pull		CROSSOVER				

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Plot Time: 12-May-12 02:00:27
 Plot Range: 730 ft to 5246.33 ft
 Data: DANIELSON_25_34\Well Based\CASING\
 Plot File: \\PORO\Poro_IQ_5_MAIN_LIB

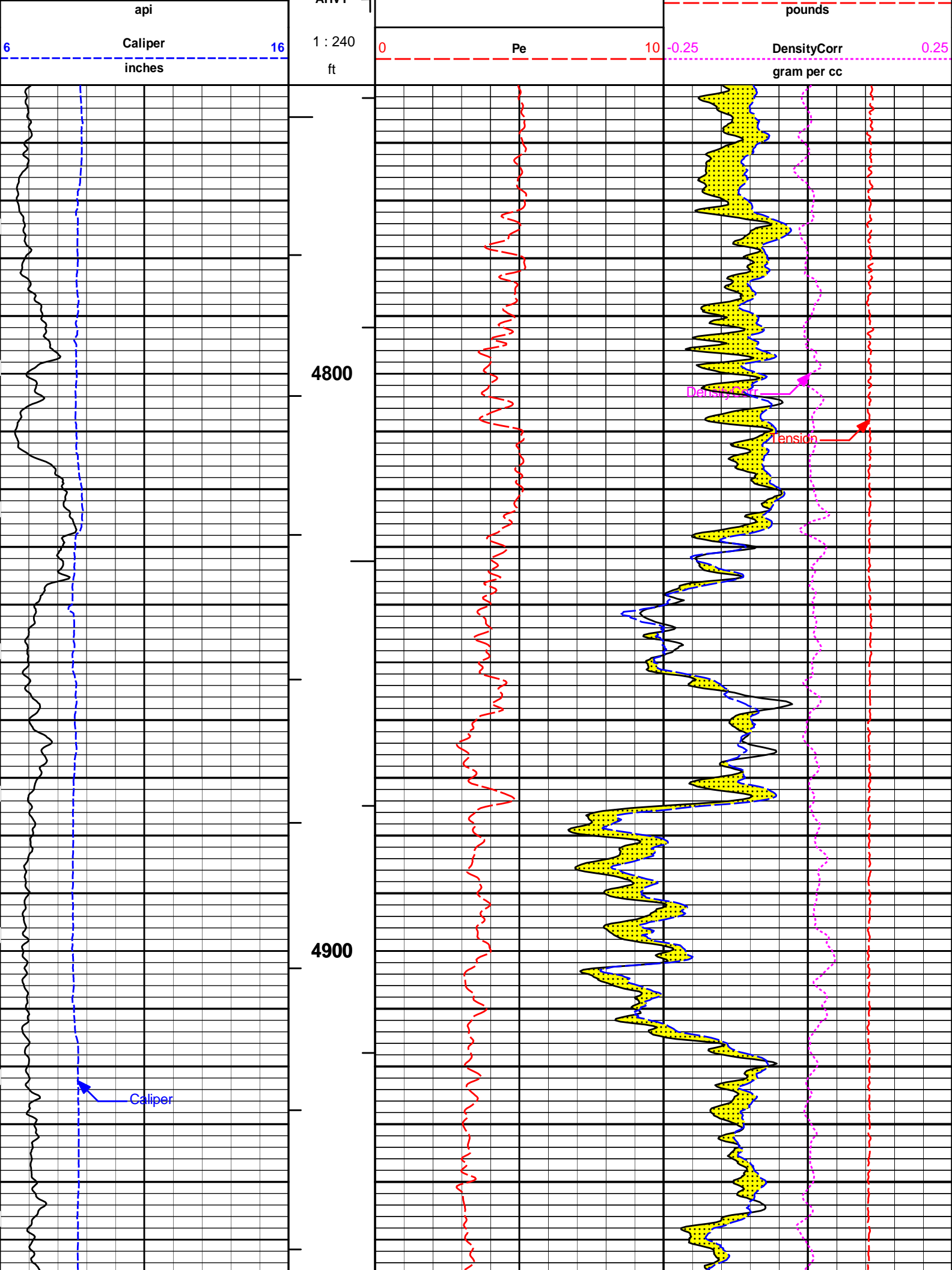
5 INCH MAIN LOG

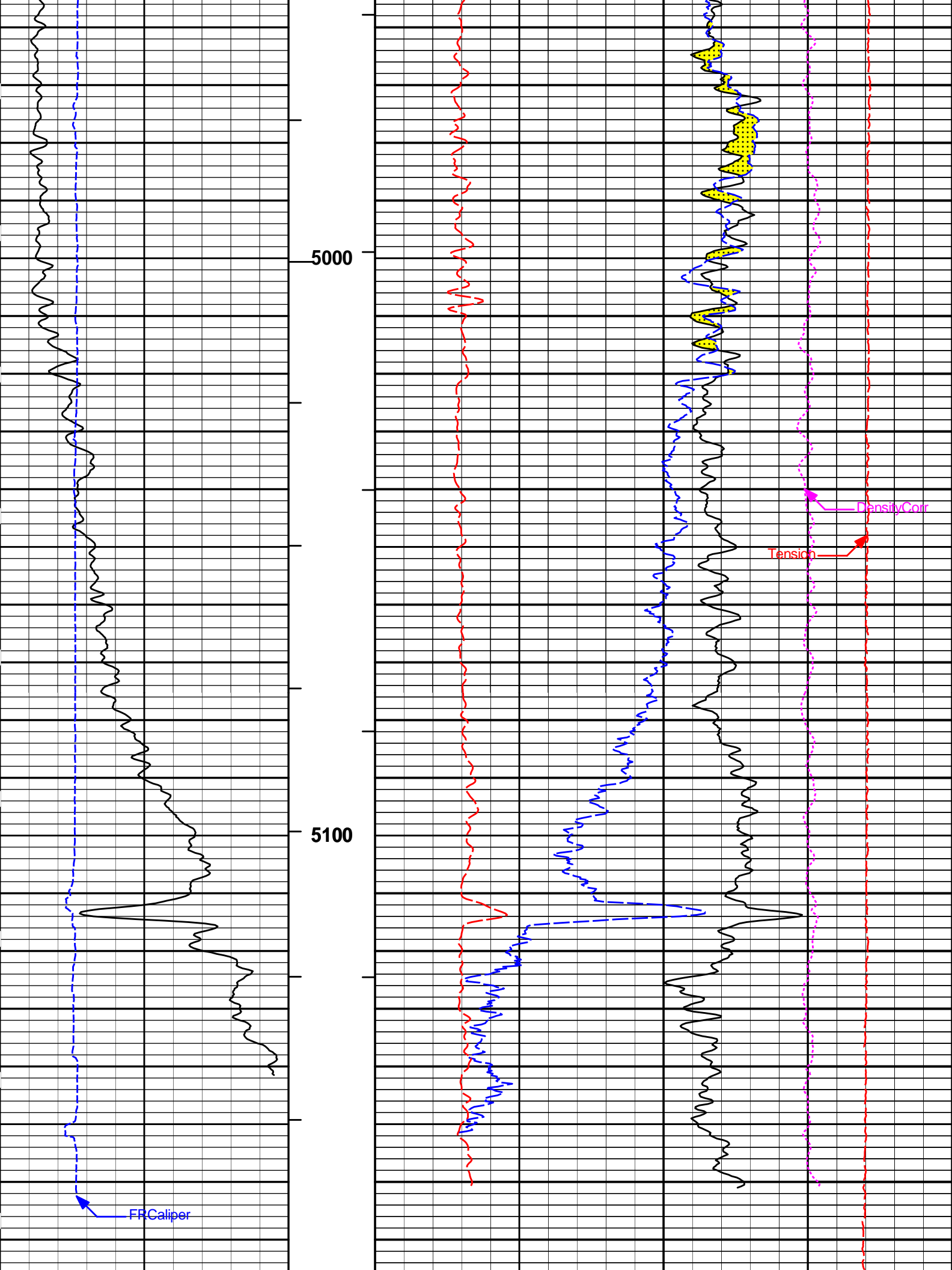
HALLIBURTON

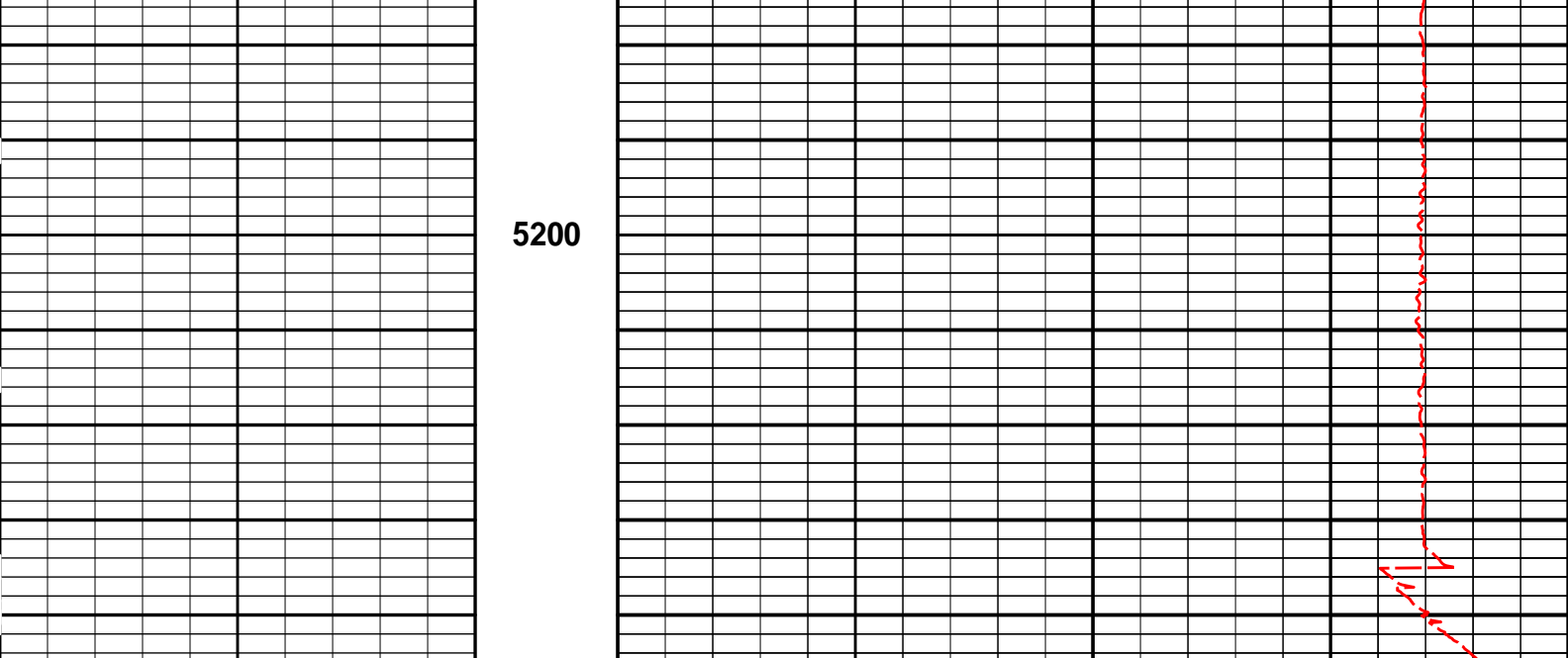
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 Plot Range: 4750 ft to 5244.83 ft
 Data: DANIELSON_25_34\Well Based\REPEAT\
 Plot File: \\PORO\Poro_IQ_5_REP_LIB

REPEAT SECTION

					CROSSOVER				
				30	Neutron Porosity				-10
					%				
	SHALE		BHVT	30	DensityPorosity				-10
					%				
0	Gamma API	150	AHVT				15K	Tension	0







5200

6	Caliper	16	1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches		ft					gram per cc	
0	Gamma API	150	AHVT				15K	Tension	0
	api							pounds	
	SHALE		BHVT	30	DensityPorosity				-10
					%				
				30	Neutron Porosity				-10
					%				
					CROSSOVER				

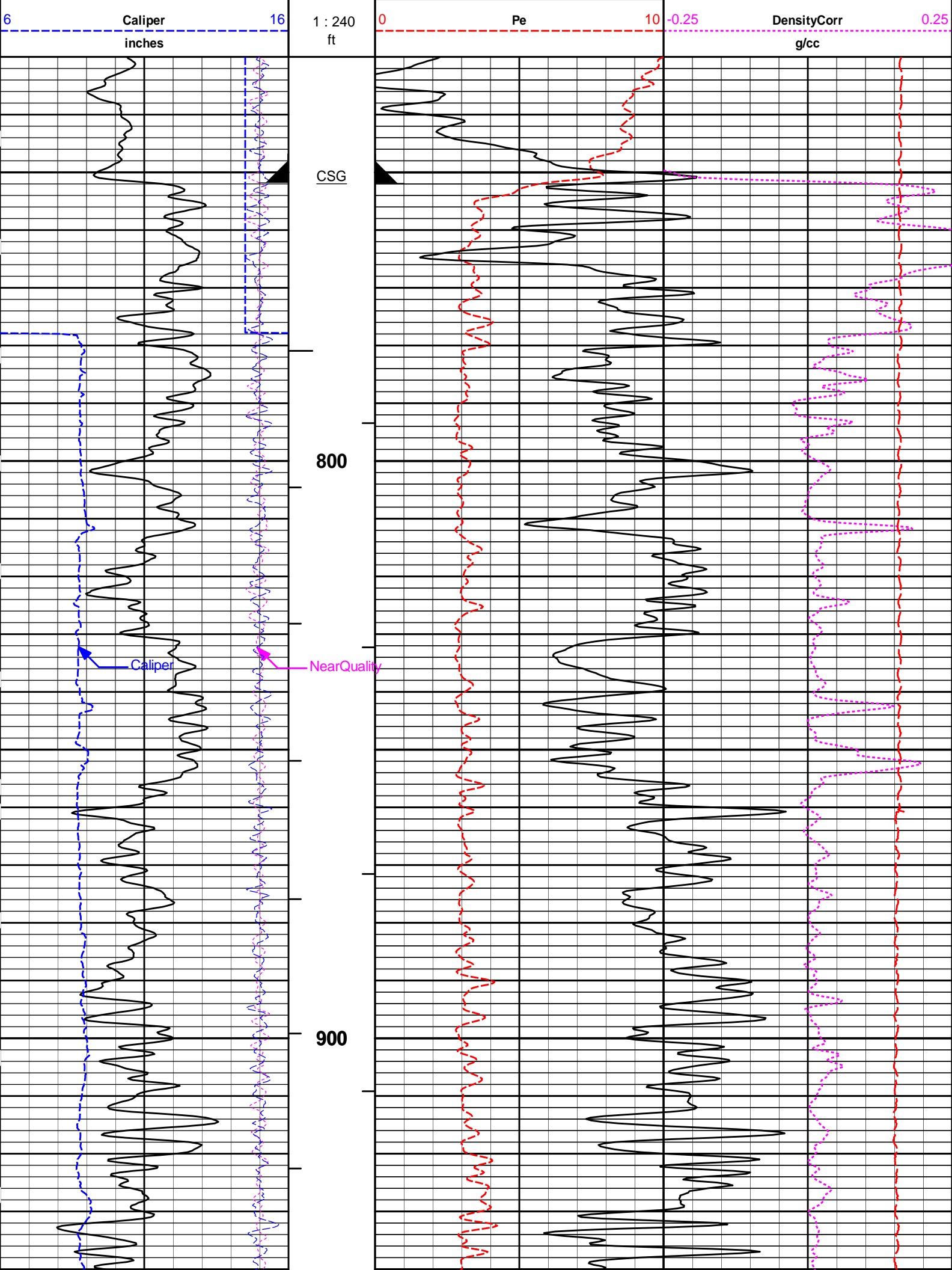
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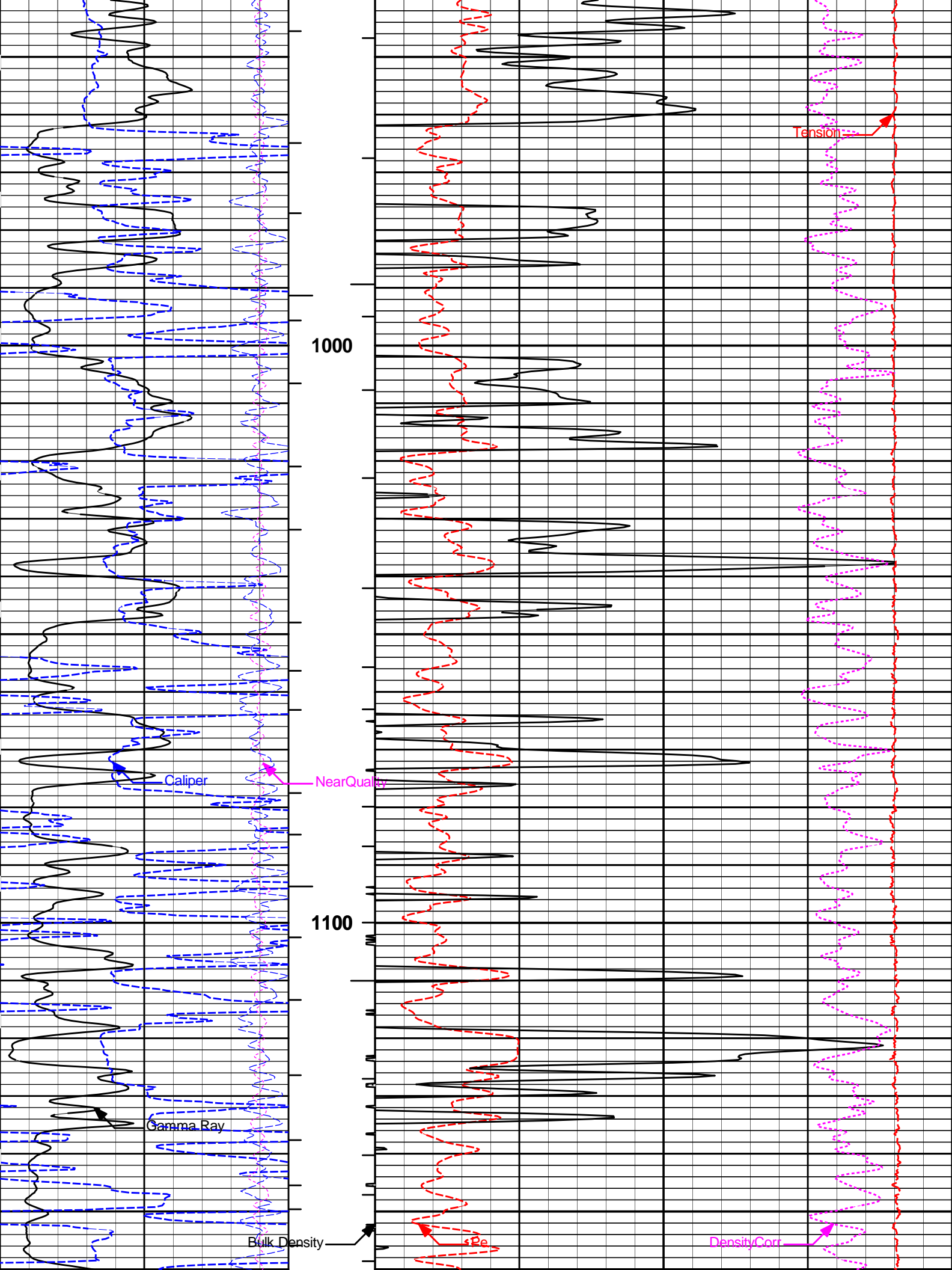
REPEAT SECTION

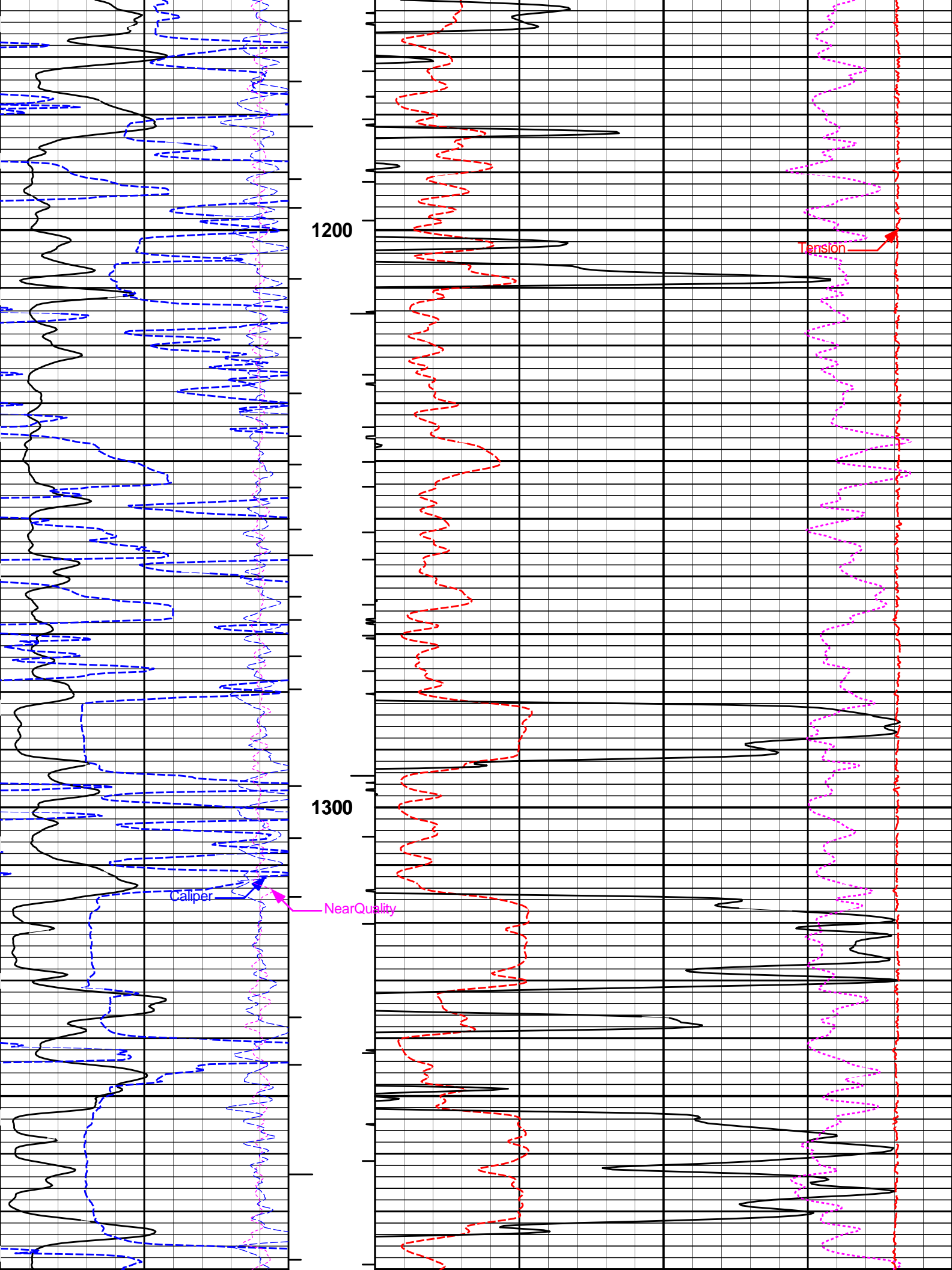
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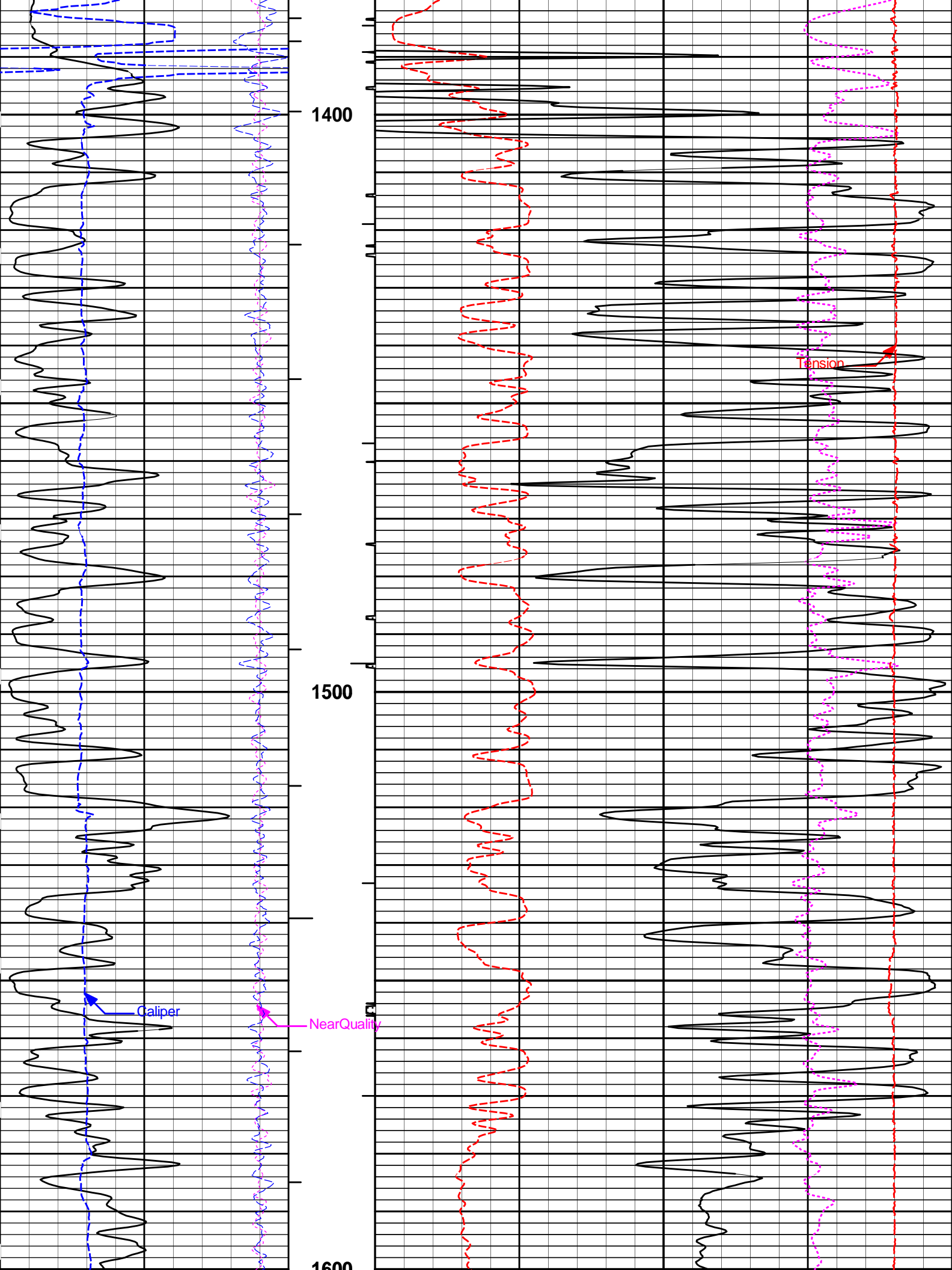
5 INCH MAIN LOG

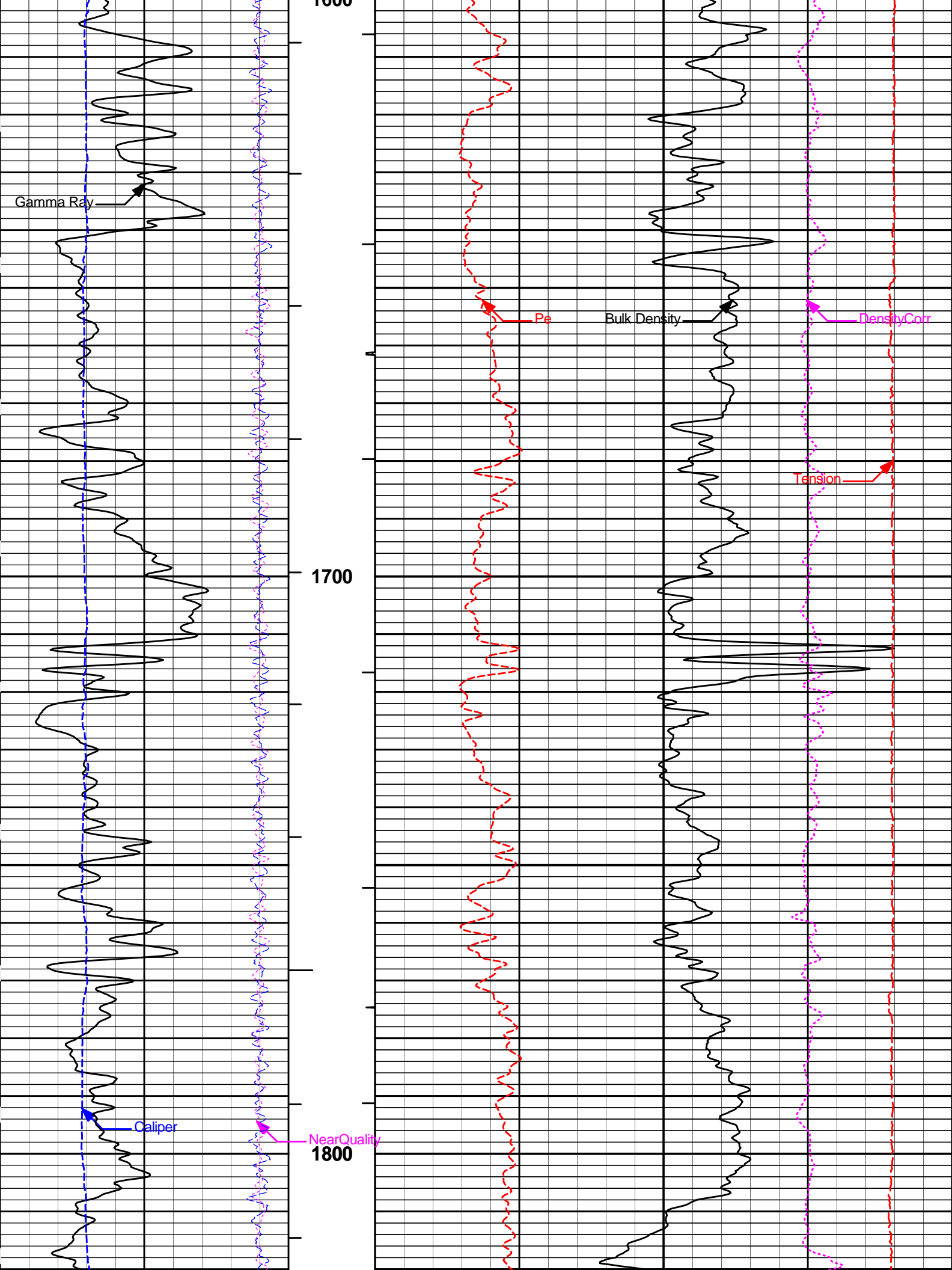
	SHALE		Tension Pull						
0	Gamma Ray	150	Tension Pull						
	api		10						
18	FarQuality	-2	AHV	2	Bulk Density				3
			ft3		g/cc				
-18	NearQuality	2	BHV			15K	Tension		0
			ft3				pounds		

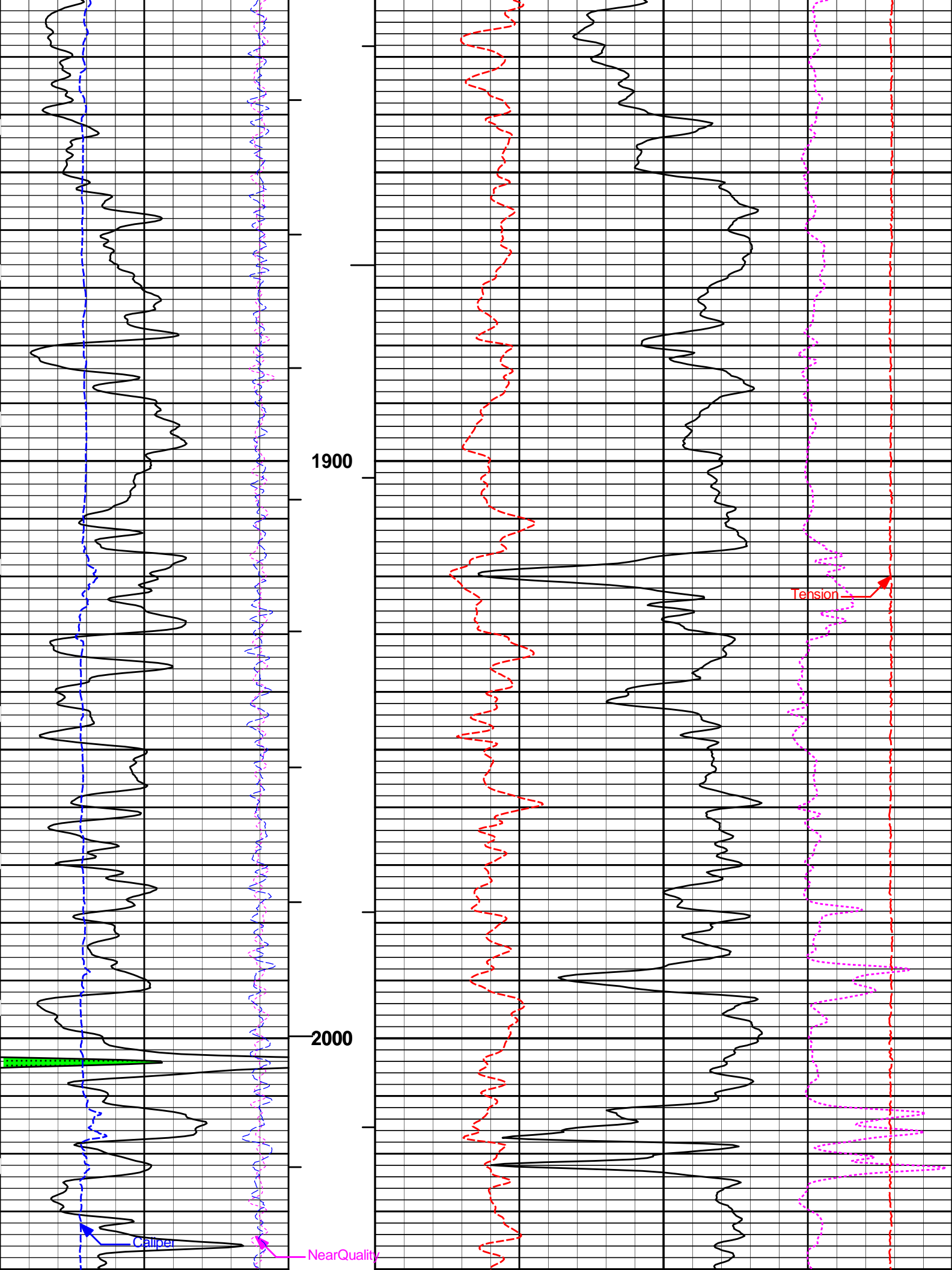


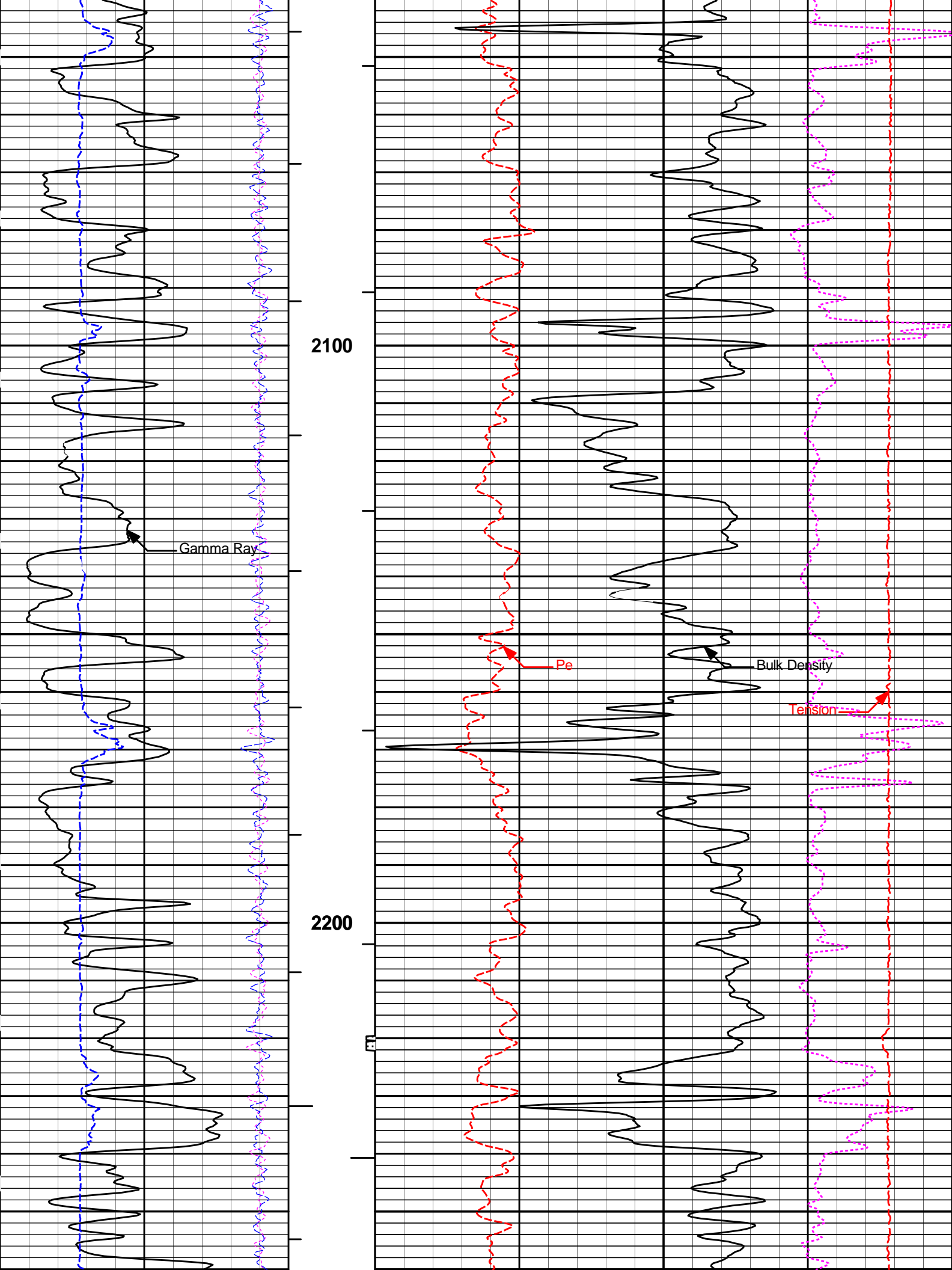


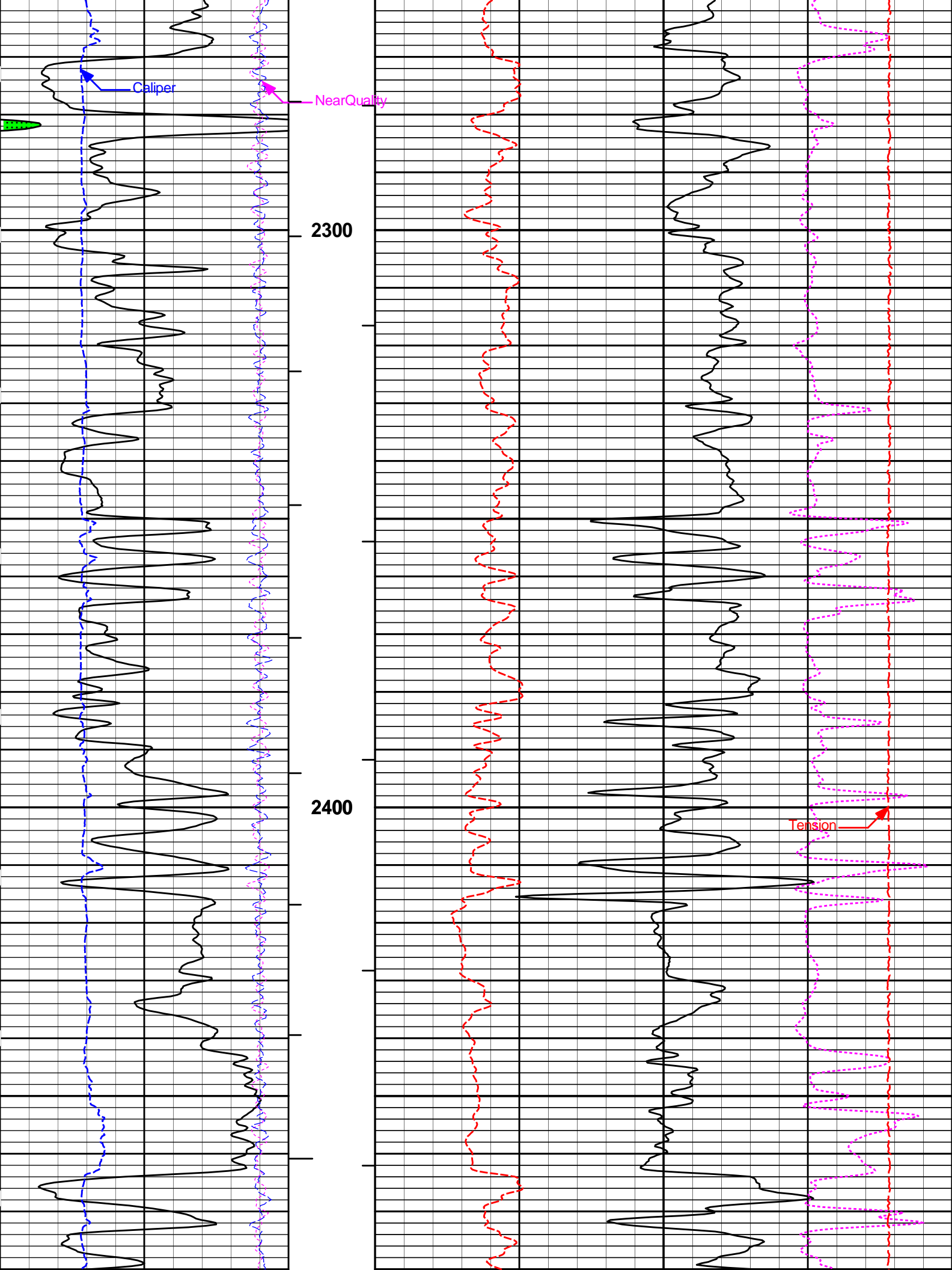


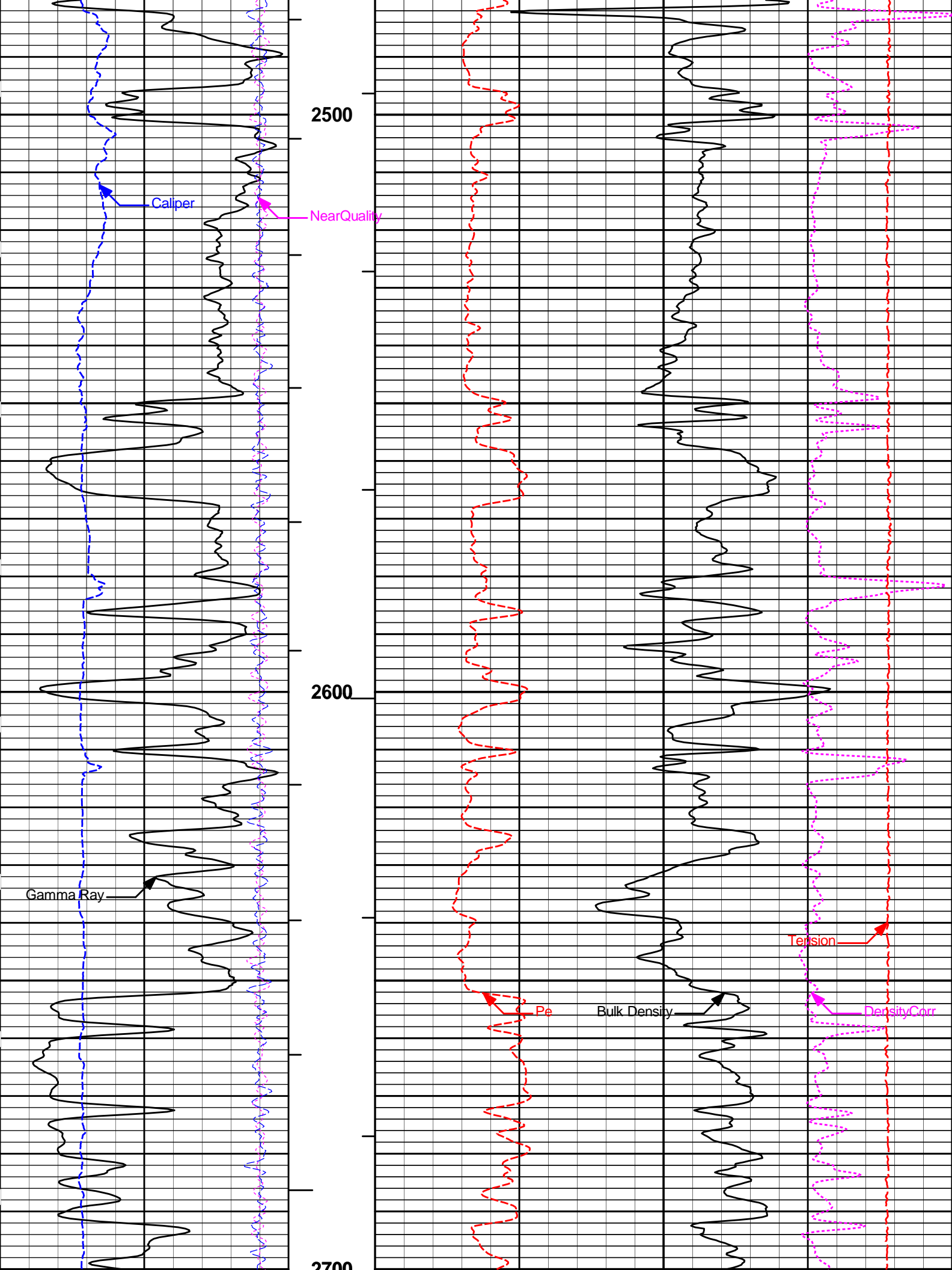


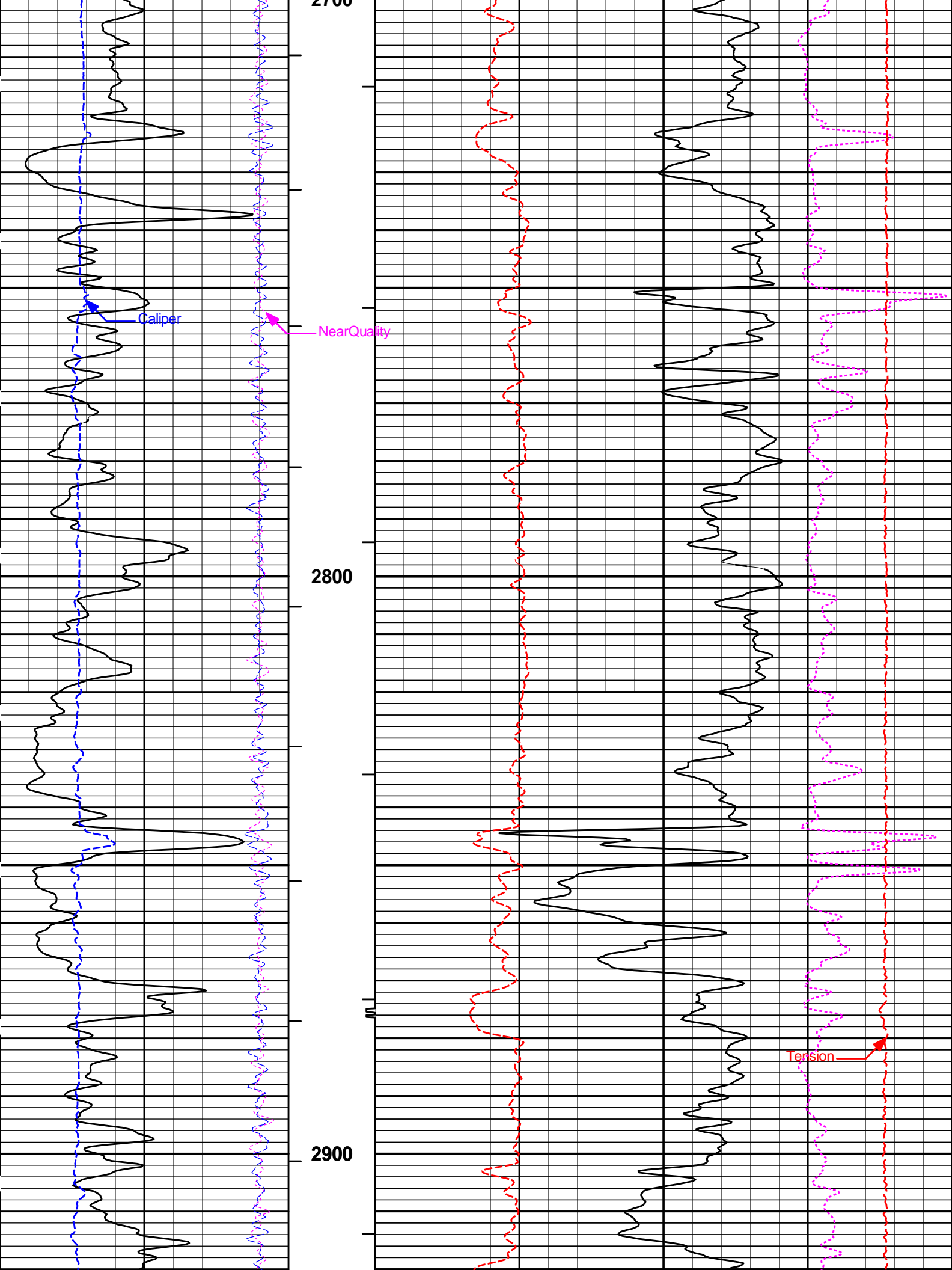


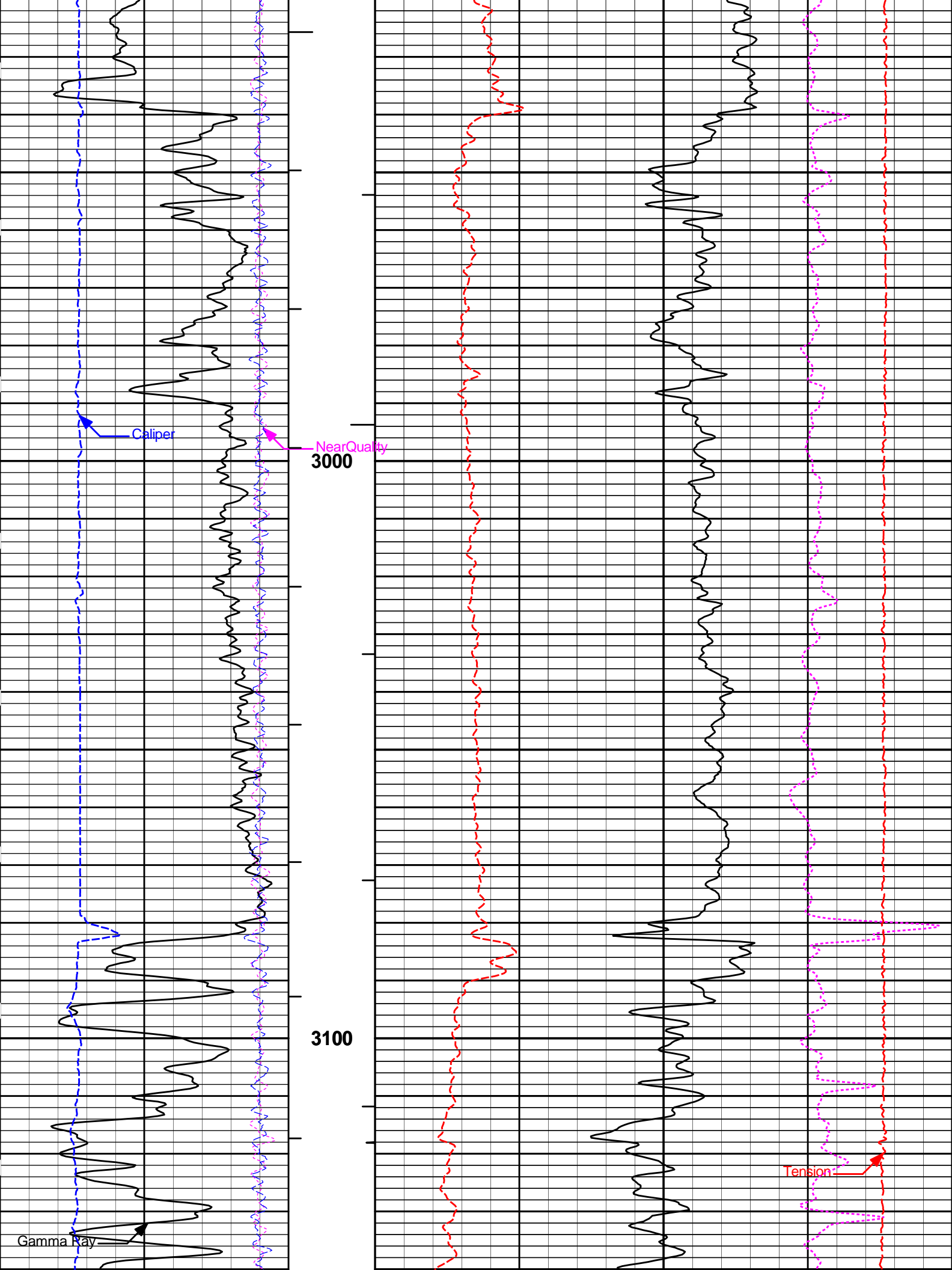


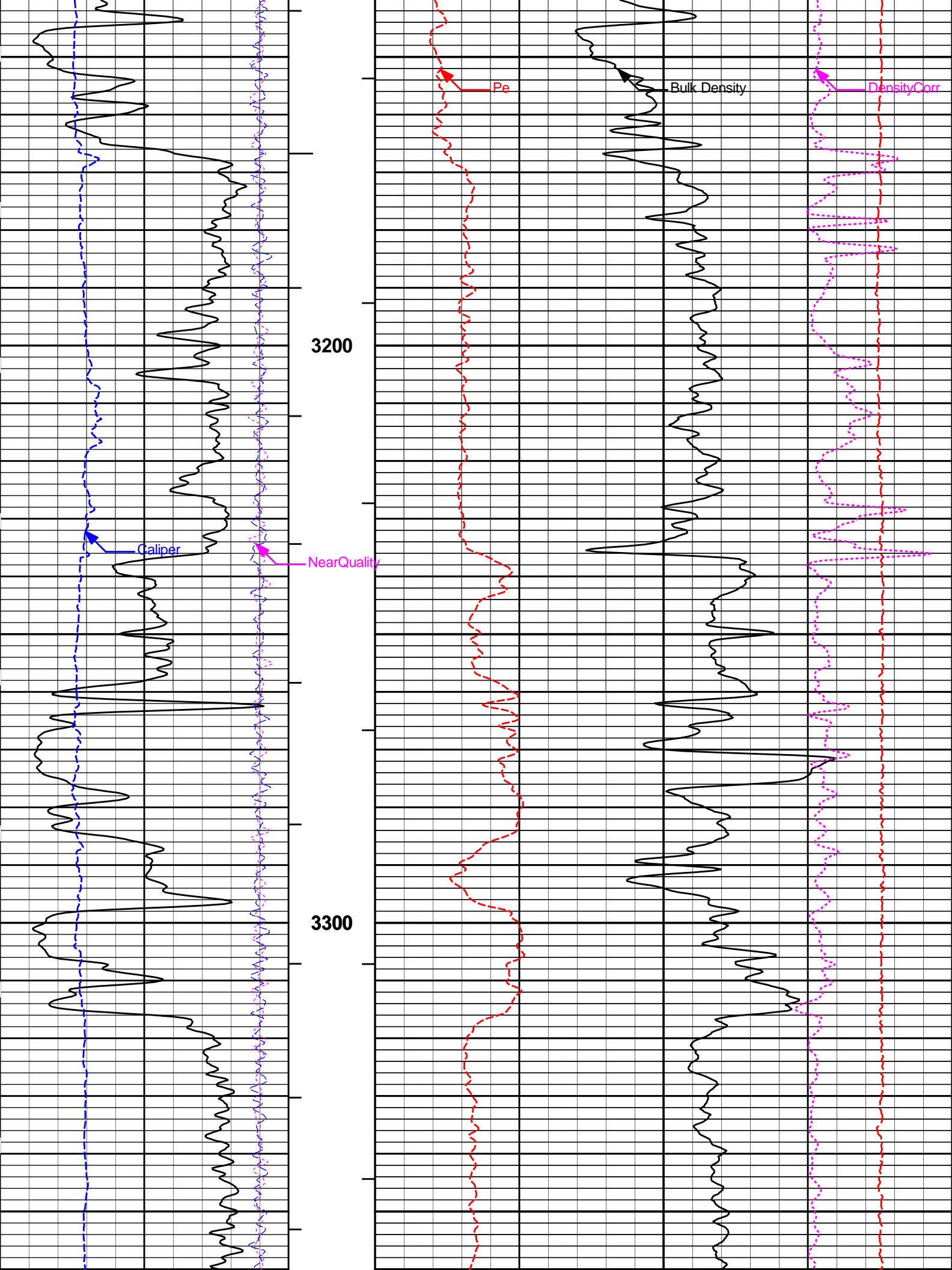


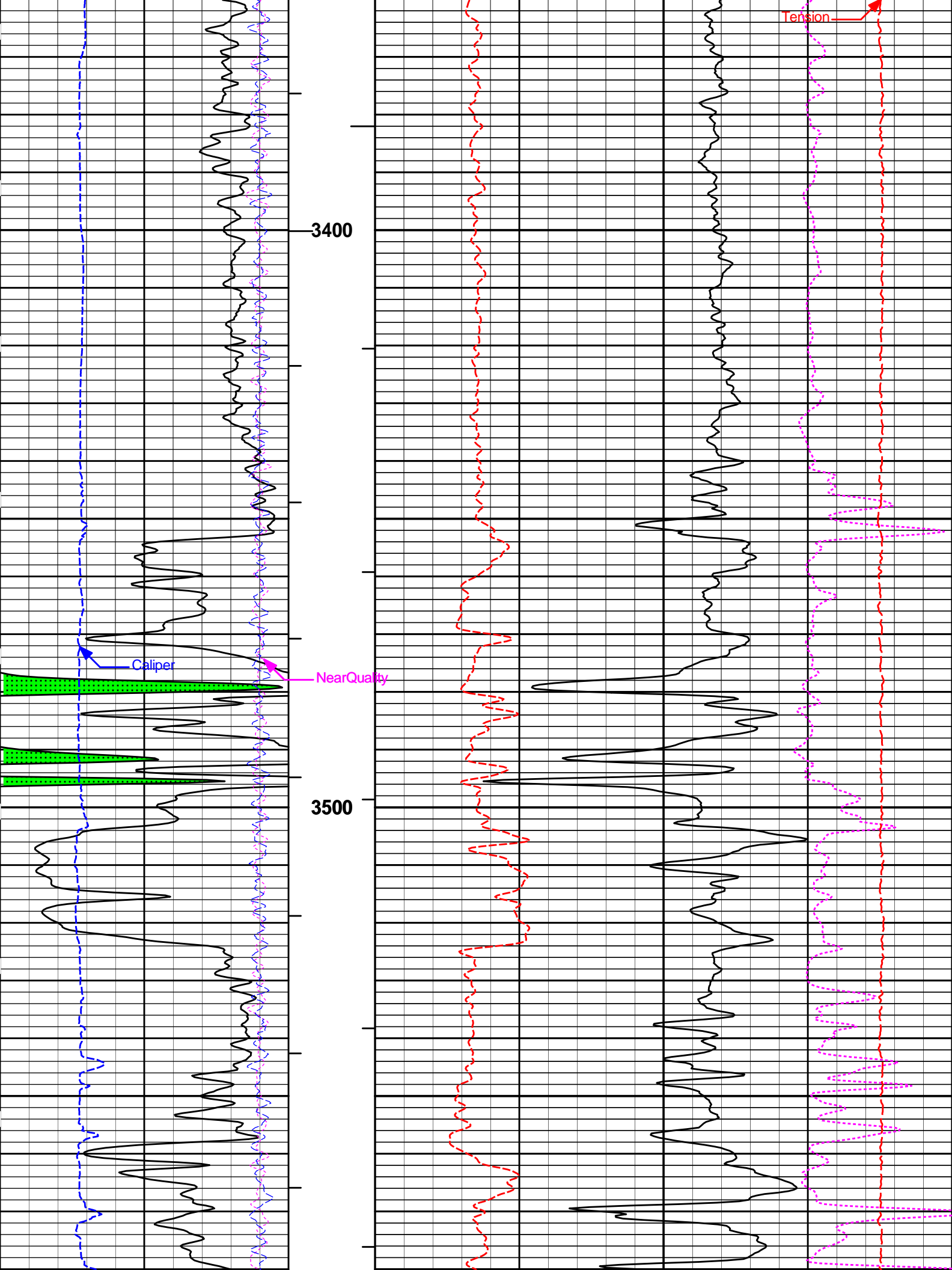


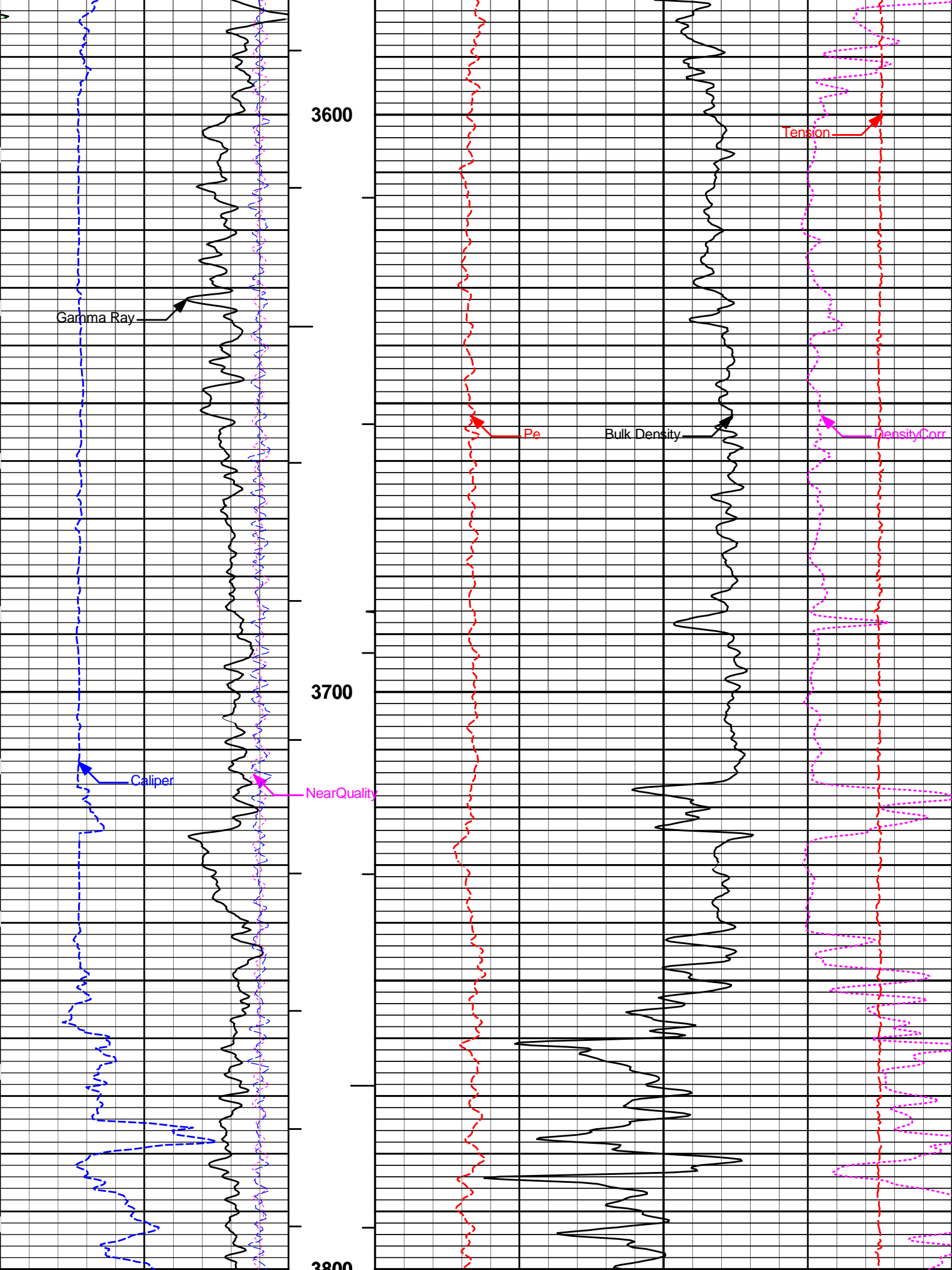


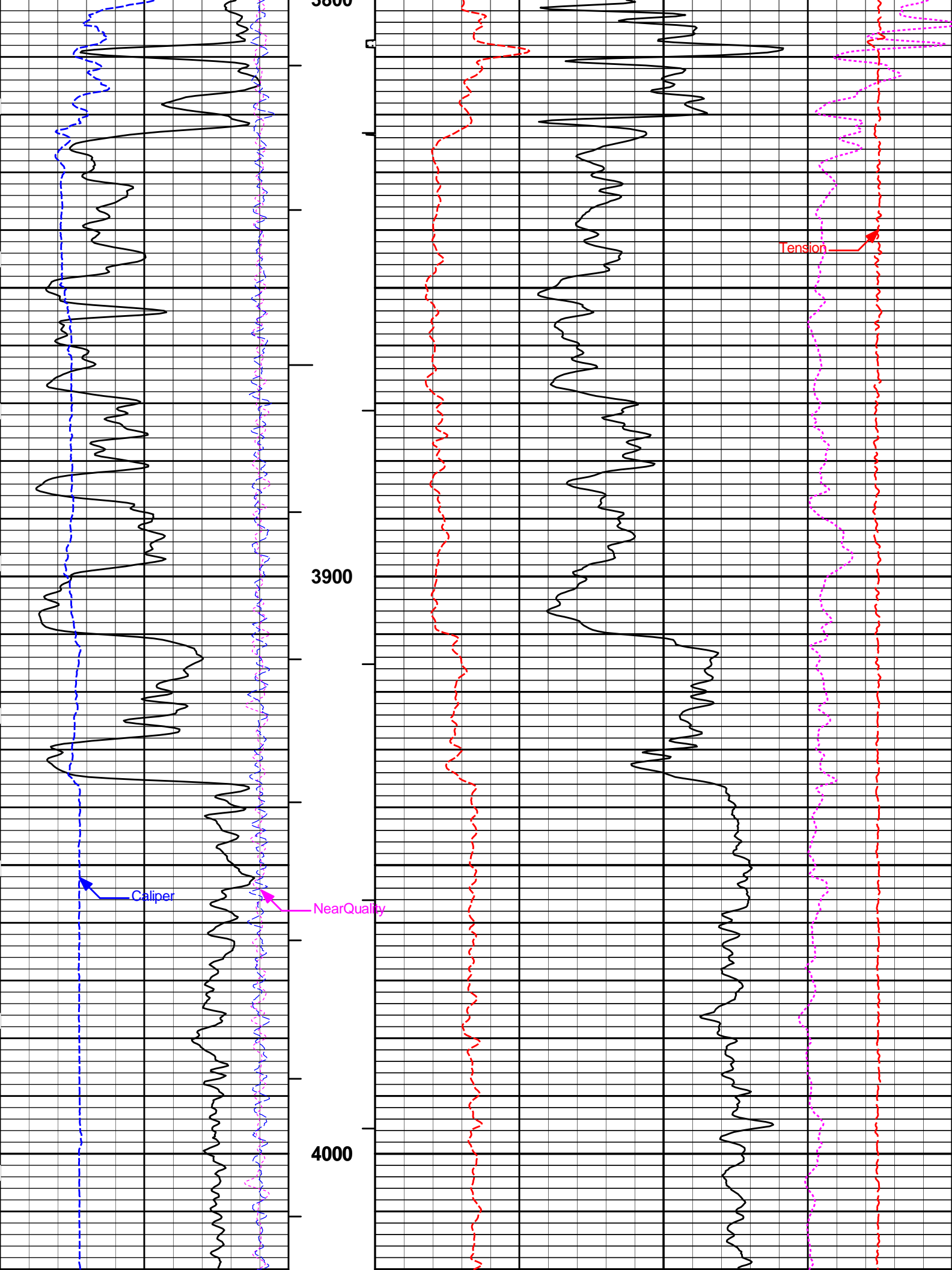


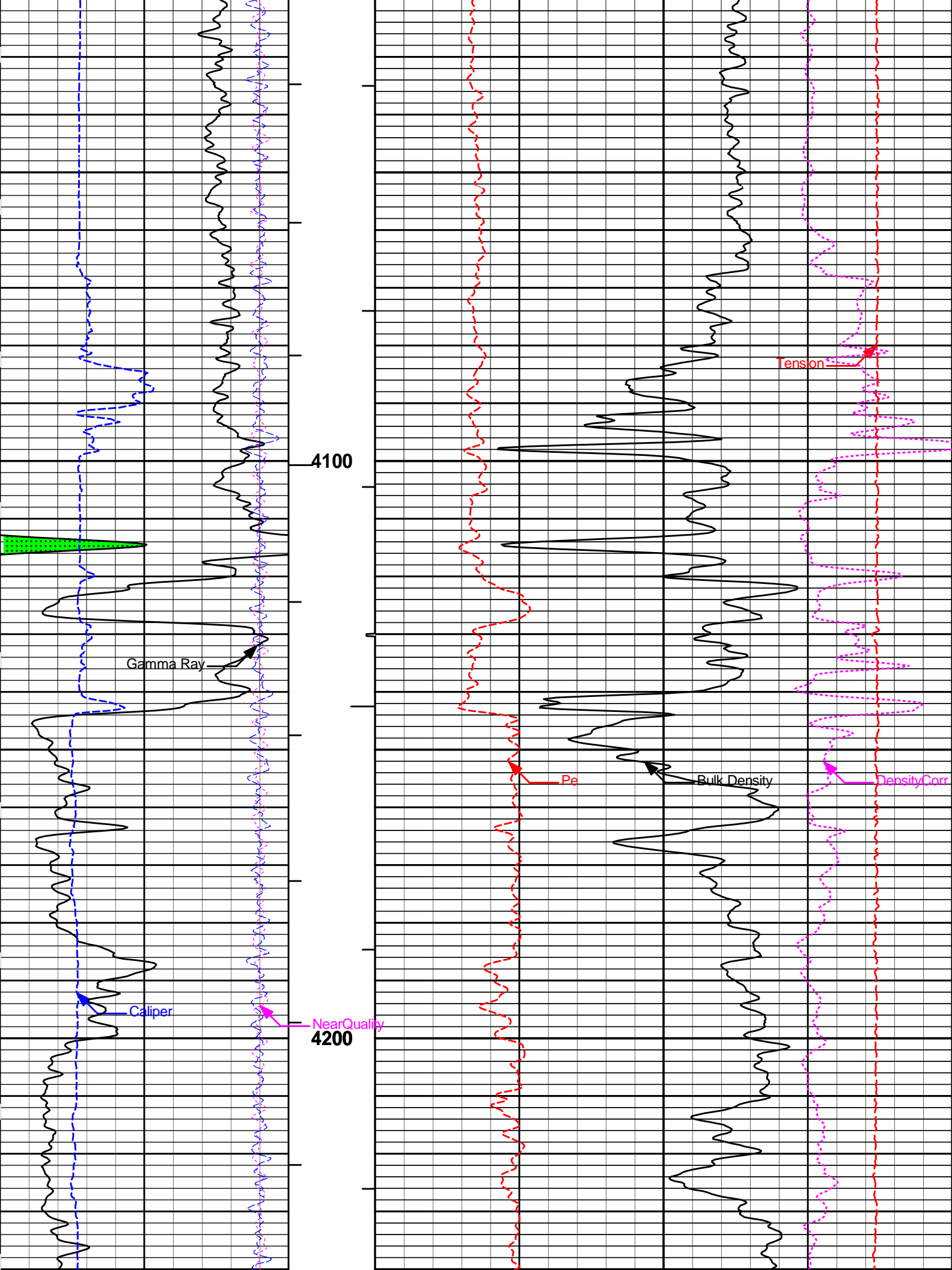


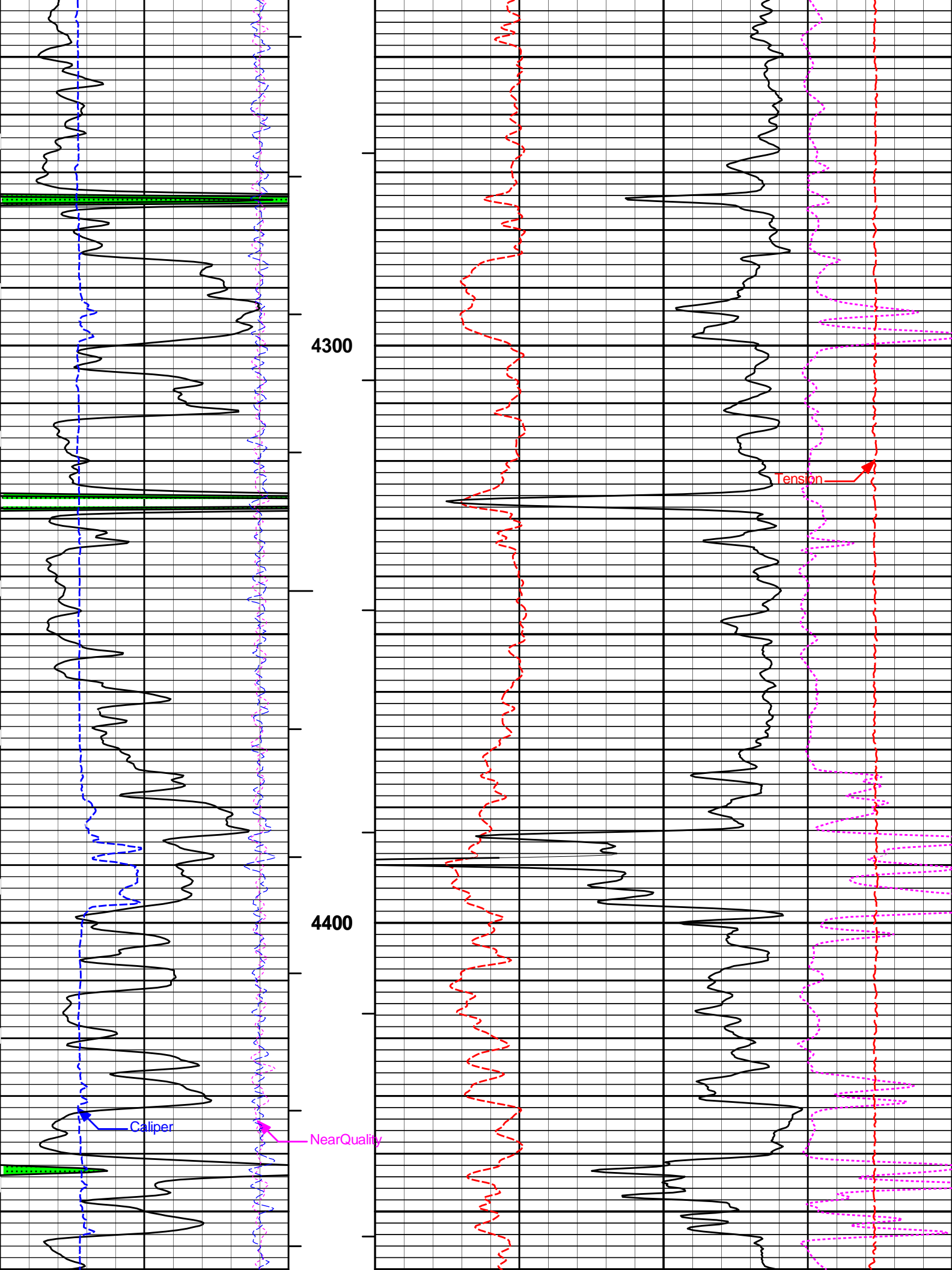


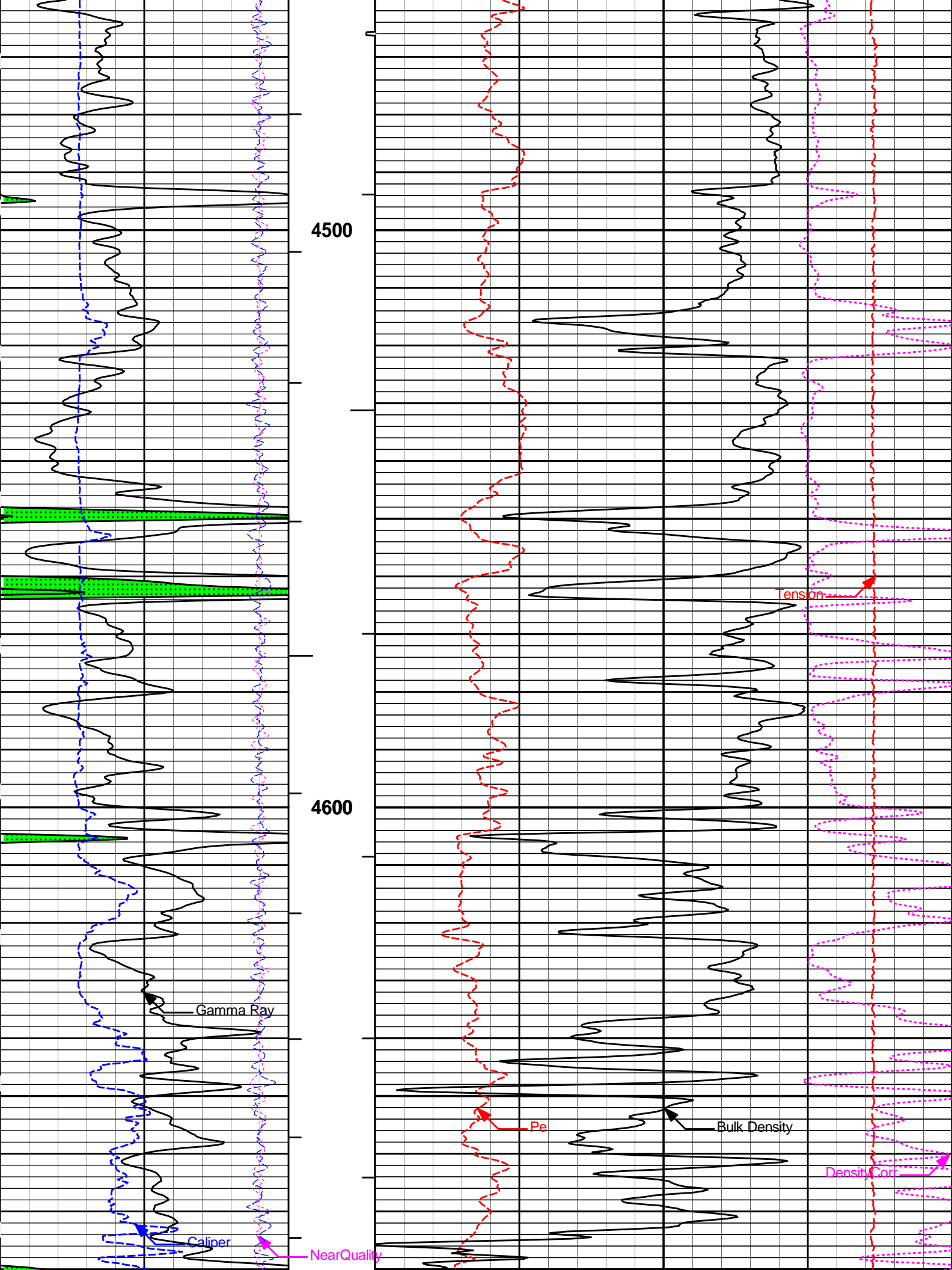


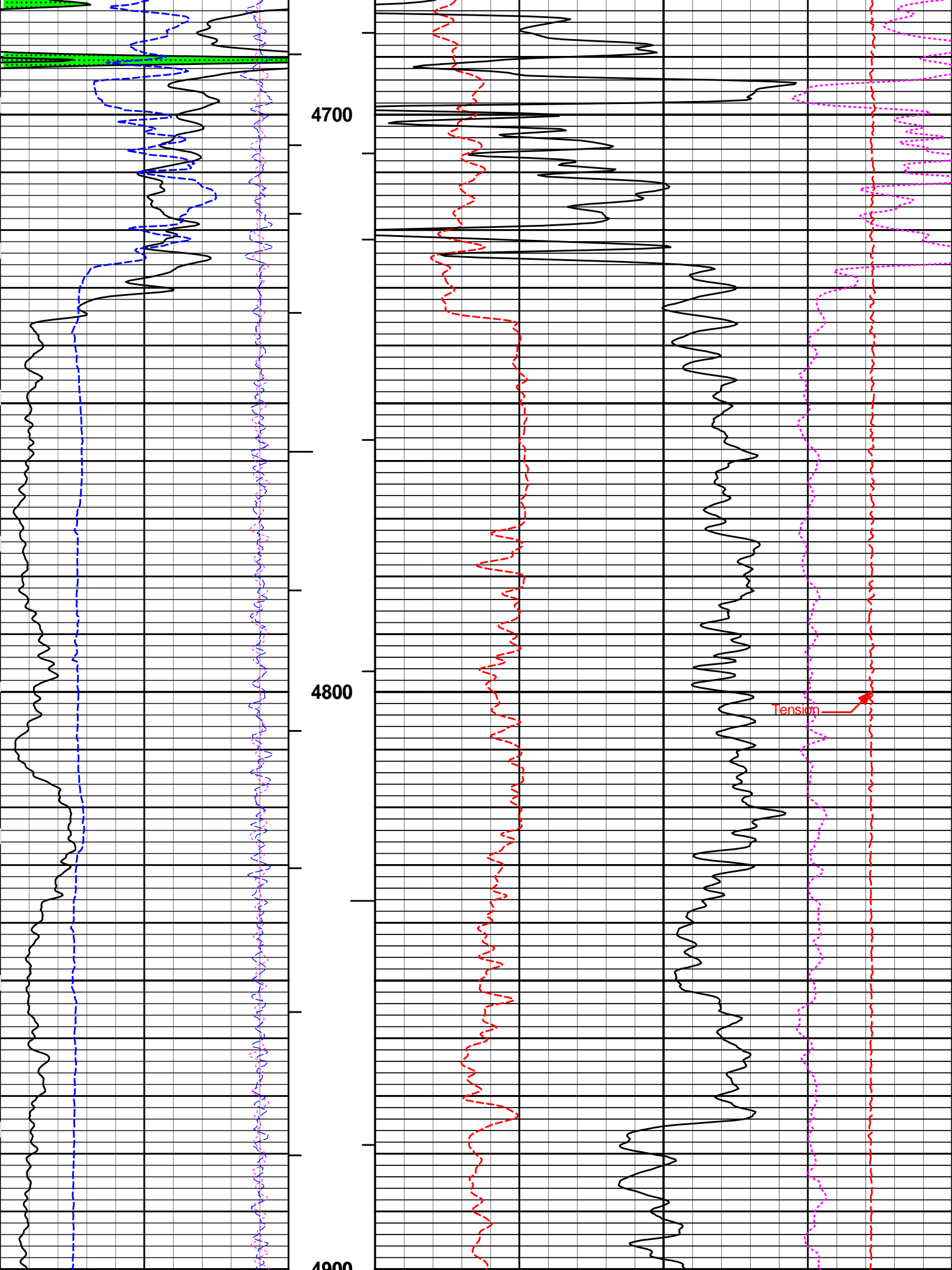


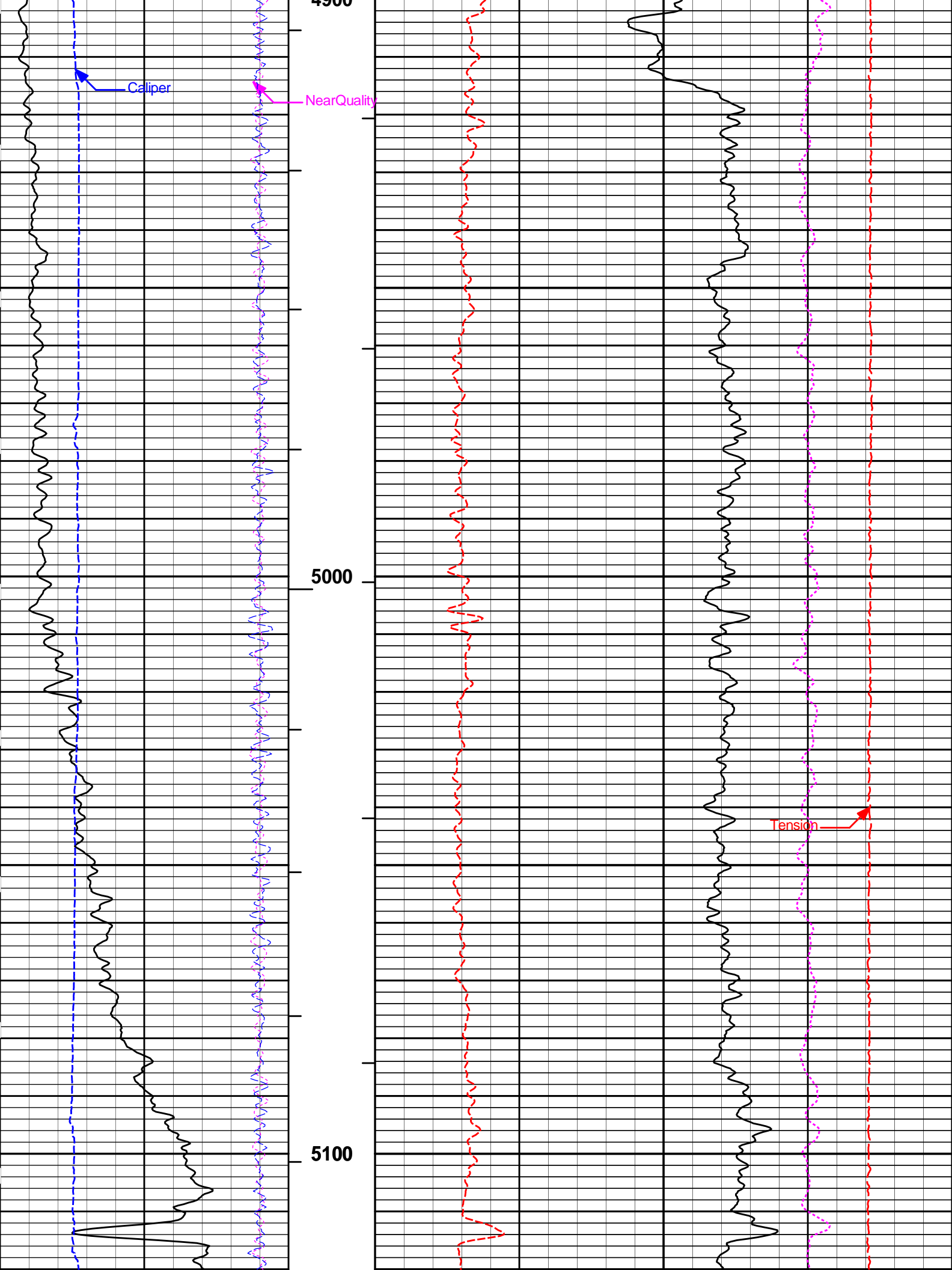


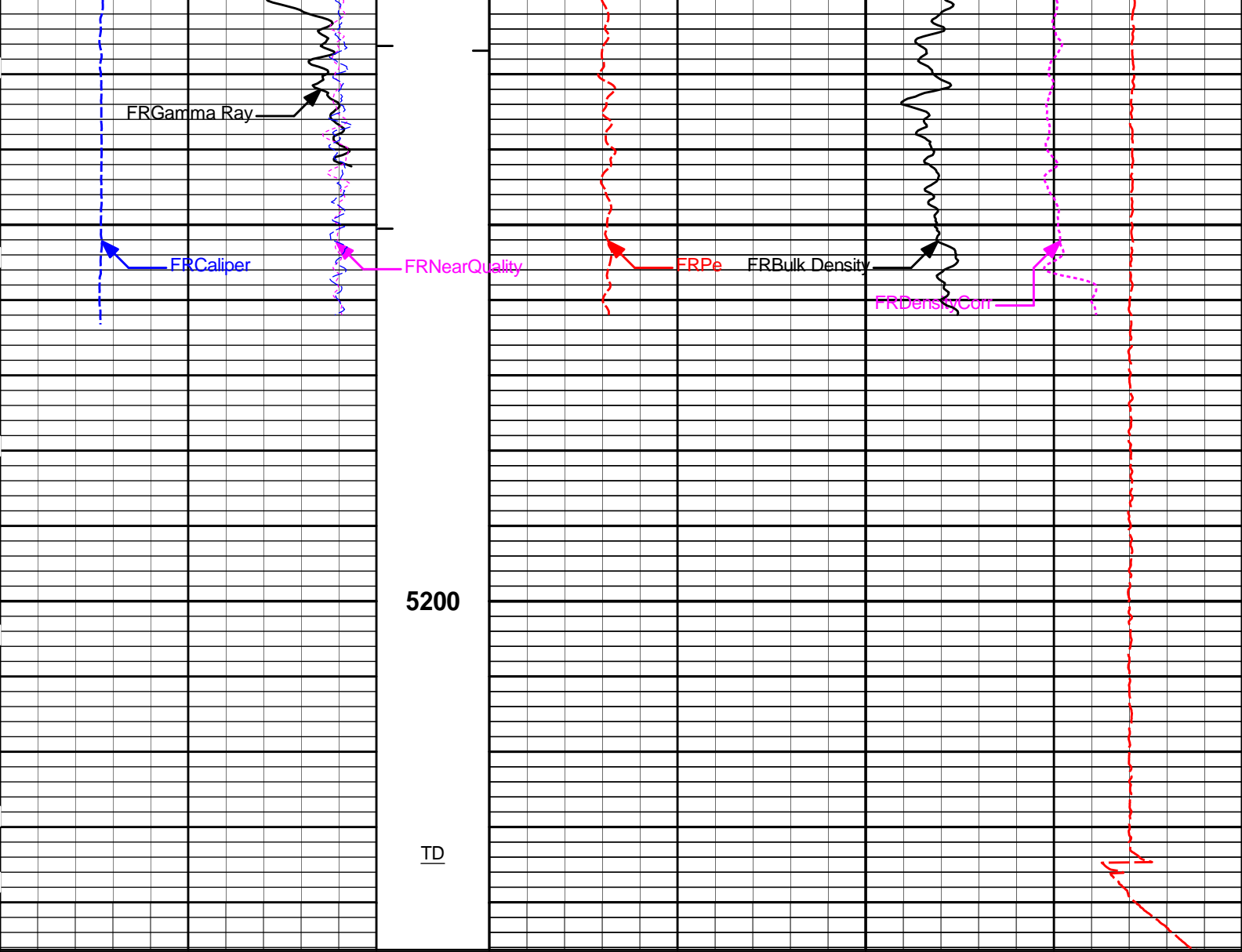












6	Caliper	16	1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches		ft					g/cc	
-18	NearQuality	2	BHV				15K	Tension	0
			ft3					pounds	
18	FarQuality	-2	AHV	2	Bulk Density				3
			ft3		g/cc				
0	Gamma Ray	150	Tension Pull						
	api		10	0					
	SHALE		Tension Pull						

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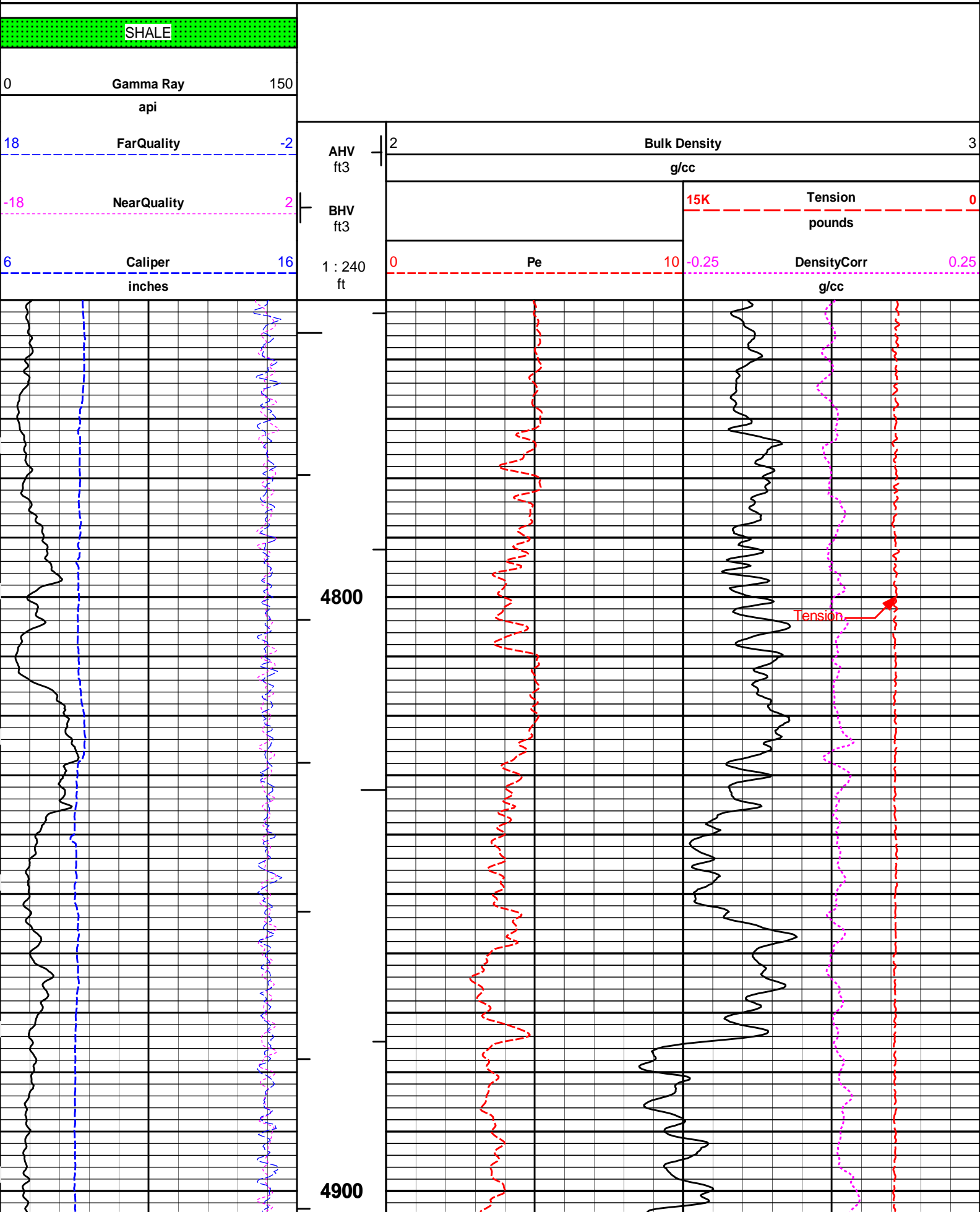
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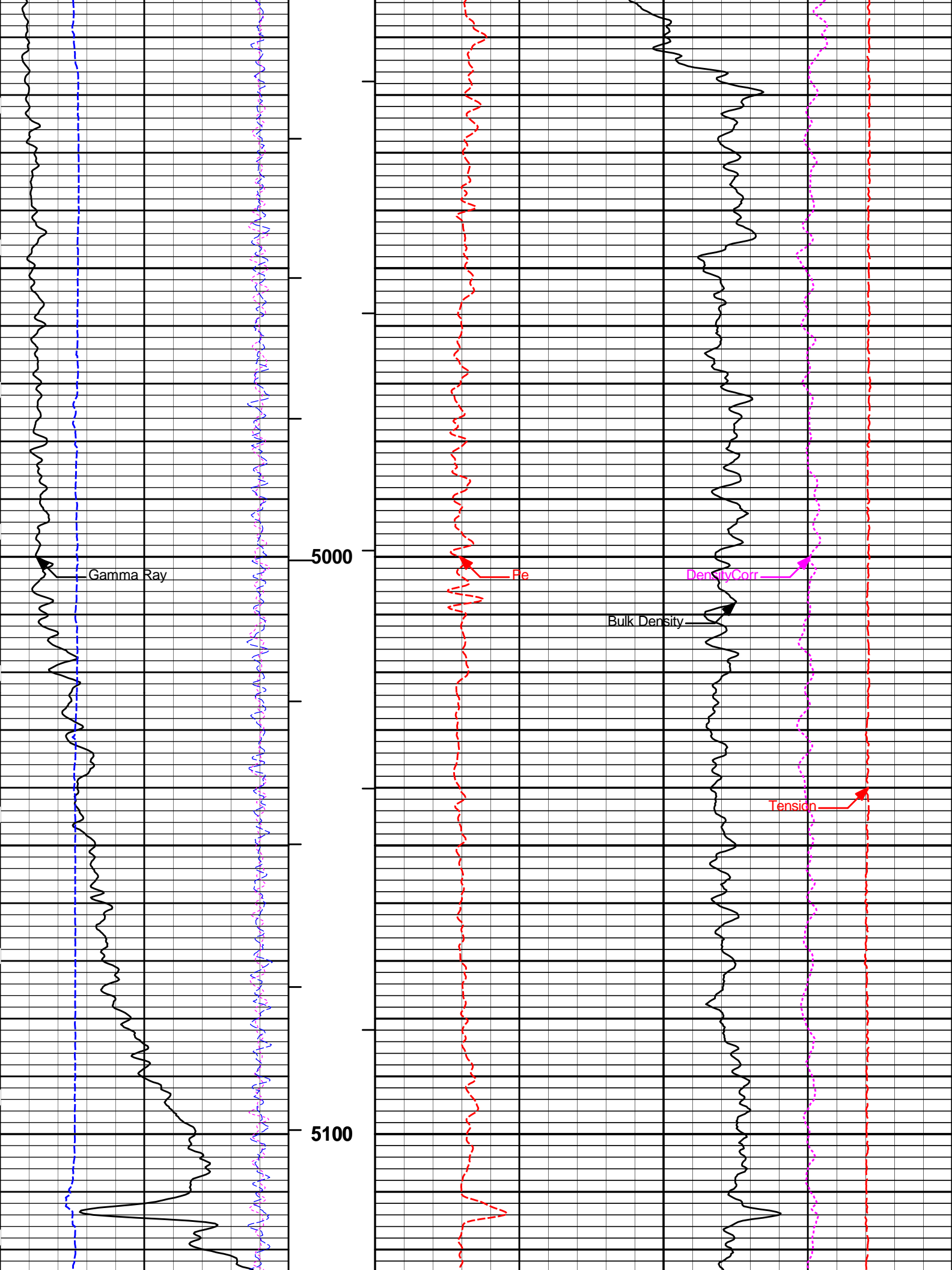
5 INCH MAIN LOG

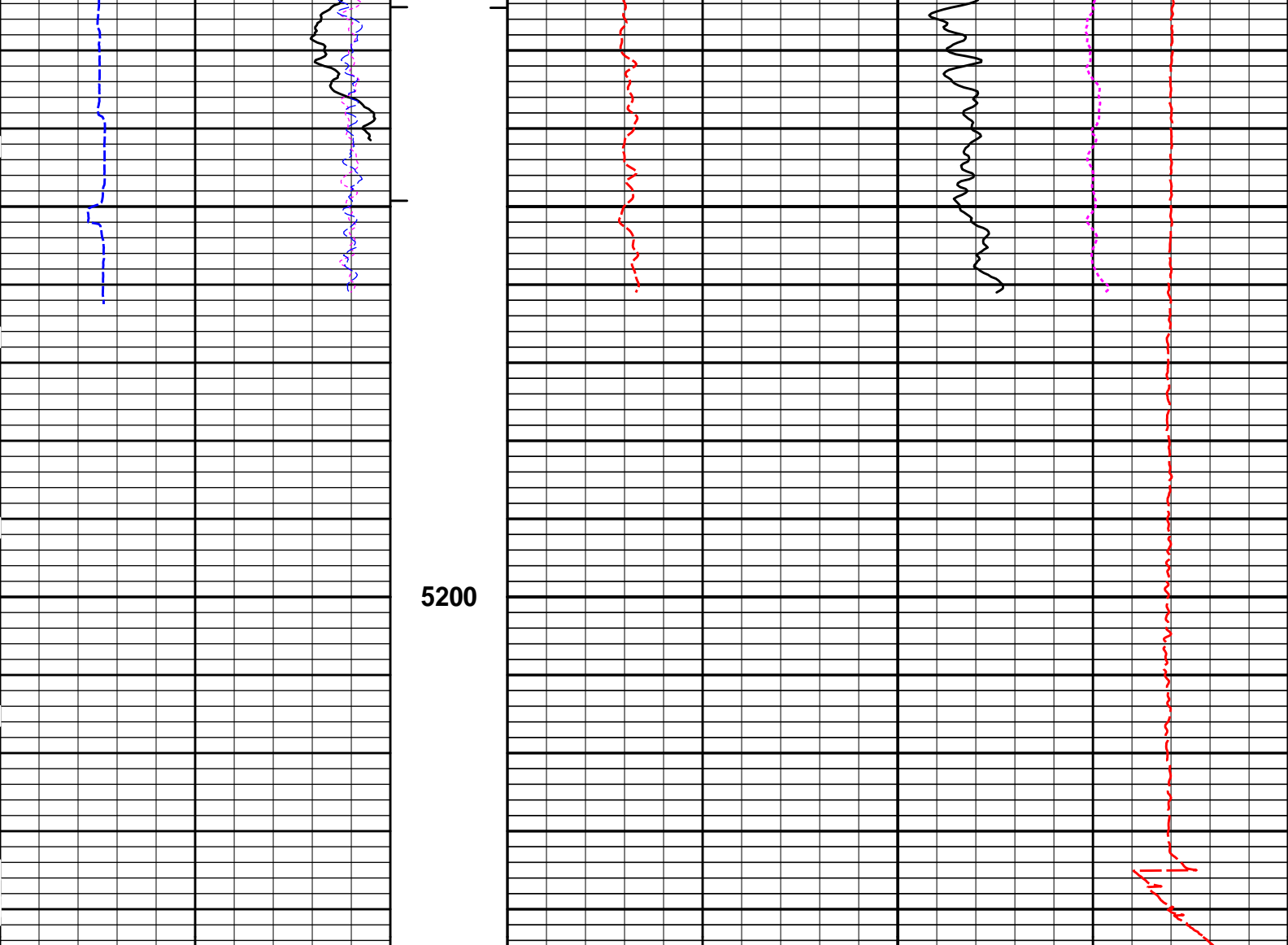
HALLIBURTON

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REPEAT SECTION







6	Caliper	16	1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches		ft					g/cc	
-18	NearQuality	2	BHV				15K	Tension	0
			ft3					pounds	
18	FarQuality	-2	AHV	2	Bulk Density				3
			ft3		g/cc				
0	Gamma Ray	150							
	api								
SHALE									

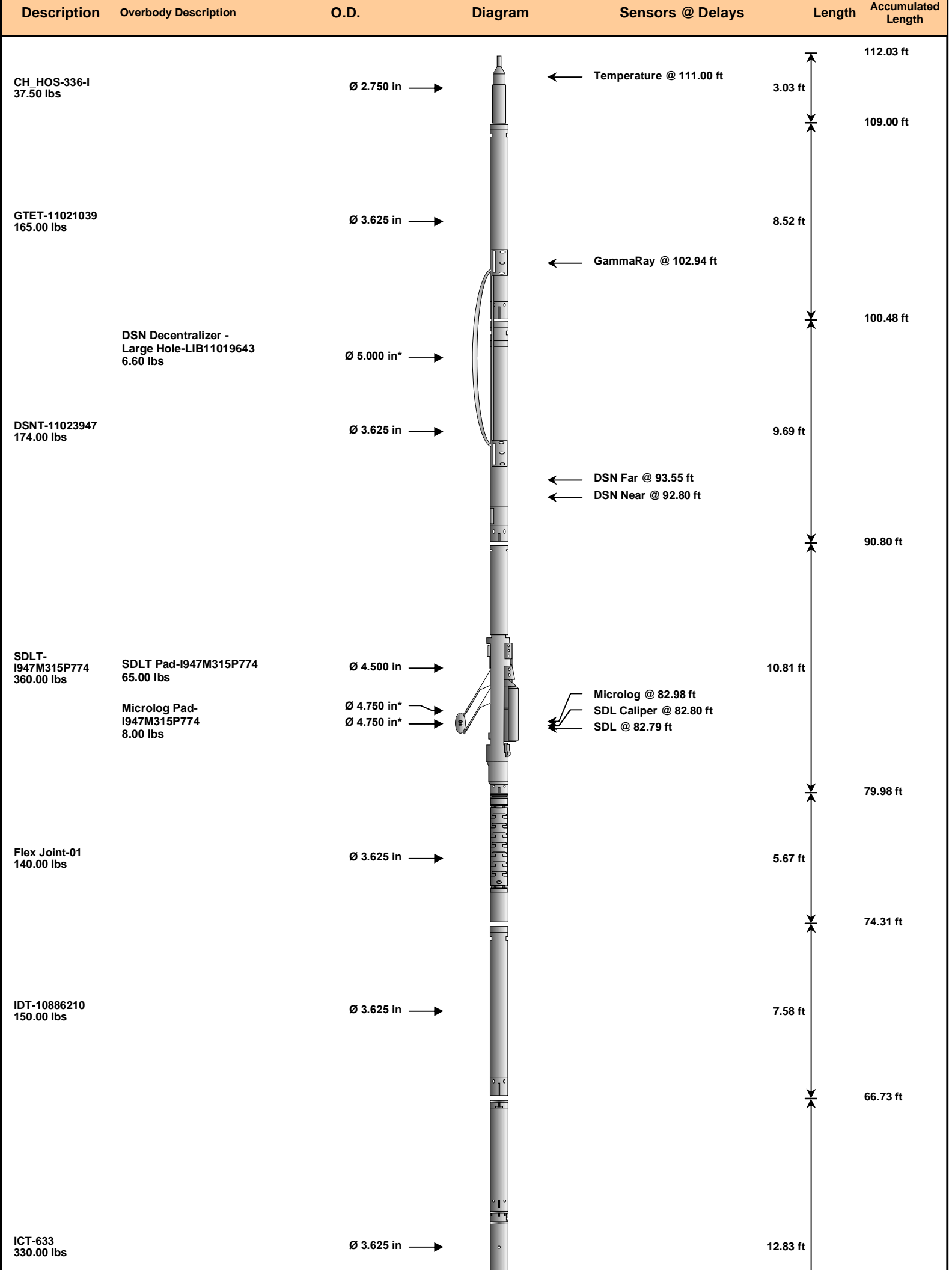
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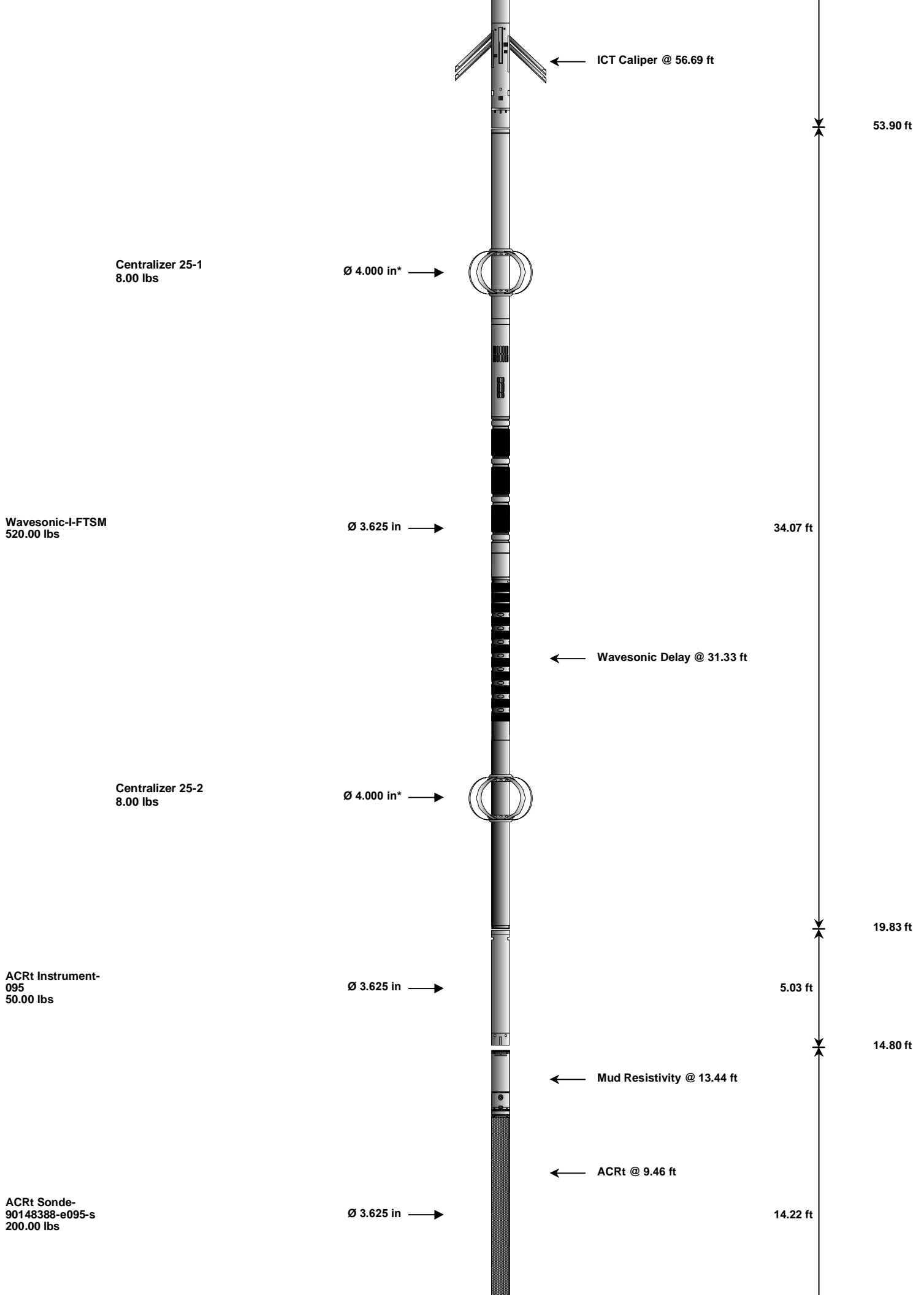
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REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT





SP Ring-LIB11003556
0.00 lbs

Ø 3.625 in* →

← SP @ 1.86 ft

Ø 3.625 in
Ø 6.000 in →



0.58 ft
0.58 ft
0.00 ft

Cabbage Head-01
10.00 lbs

Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max. Log. Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell	336-I	37.50	3.03	109.00	300.00
GTET	Gamma Telemetry Tool	11021039	165.00	8.52	100.48	60.00
DSNT	Dual Spaced Neutron	11023947	174.00	9.69	90.80	60.00
DCNT	DSN Decentralizer Large Hole	LIB11019643	6.60	9.42 *	94.13	300.00
SDLT	Spectral Density Tool	I947M315P774	360.00	10.81	79.98	60.00
MICP	Microlog Pad	I947M315P774	8.00	1.00 *	82.48	60.00
SDLP	Density Insite Pad	I947M315P774	65.00	2.55 *	82.19	60.00
FLEX	Flex Joint	01	140.00	5.67	74.31	300.00
IDT	Insite Directional Tool	10886210	150.00	7.58	66.73	30.00
ICT	Six Independent Arm Caliper	633	330.00	12.83	53.90	30.00
WSTT	WaveSonic Insite	FTSM	520.00	34.07	19.83	30.00
OBCEN	Centralizer - 25 in. Overbody	2	8.00	2.08 *	24.39	300.00
OBCEN	Centralizer - 25 in. Overbody	1	8.00	2.08 *	46.68	300.00
ACRt	Array Compensated True Resistivity Instrument Section	095	50.00	5.03	14.80	300.00
ACRt	Array Compensated True Resistivity	90148388-e095-s	200.00	14.22	0.58	300.00
SP	SP Ring	LIB11003556	0.00	0.25 *	1.86	300.00
CBHD	Cabbage Head	01	10.00	0.58	0.00	300.00
Total			2,232.10	112.03		

* Not included in Total Length and Length Accumulation.
Date: 11-May-12 21:48:07

Data: DANIELSON_25_34\0001 GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRT\IDLE

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11021039 Reference Calibration Date: 24-Feb-12 13:14:31
 Engineer: BOMAR Calibration Date: 05-Apr-12 15:06:59
 Software Version: WL INSITE R3.4.2 (Build 2) Calibration Version: 1

Calibrator Source S/N: MP051807-02
 Calibrator API Reference:234.00 api
 Equivalent Calibrator API Reference:238.1 api

Measurement	Measured	Calibrated	Units
Background	28.9	31.5	api
Background + Calibrator	247.4	269.6	api
Calibrator	218.5	238.1	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11021039 Reference Calibration Date: 05-Apr-12 15:06:59
 Engineer: J. BOLLLOM Calibration Date: 11-May-12 19:46:10
 Software Version: WL INSITE R3.4.2 (Build 2) Calibration Version: 1

Calibrator Source S/N: MP051807-02
 Calibrator API Reference:234.00 api
 Equivalent Calibrator API Reference:238.1 api

Field Verification	Shop	Field	Units
Background	31.5	29.9	api

Background + Calibrator	269.6	268.7	api
Calibrator	238.1	238.8	api
Shop	Field	Difference	Tolerance
238.1	238.8	-0.7	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 11023947 **Reference Calibration Date:** 29-Mar-12 10:32:54
Engineer: BOMAR **Calibration Date:** 27-Apr-12 10:28:11
Software Version: WL INSITE R3.4.2 (Build 2) **Calibration Version:** 1

Logging Source S/N: DSN_439
Tank Serial Number: FTSM
Reference value assigned to Tank: 56.100
Snow Block S/N: 336
Calibration Tank Water Temperature: 65 degF
Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.998	1.002	0.900 - 1.100

WATER TANK SUMMARY (Horizontal Water Tank)				
Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change
Porosity (decp):	0.2346	0.2358	0.0011	+/- 0.0020
Calibrated Ratio:	10.52	10.56	0.038	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0835	0.02000 - 0.09000

PASS/FAIL SUMMARY	
Background Check:	Passed
Gain-Range Check:	Passed
Snow-Block Check:	Passed

DUAL SPACED NEUTRON FIELD CALIBRATION

Tool Name: DSNT - 11023947 **Reference Calibration Date:** 27-Apr-12 10:28:11
Engineer: J. BOLLLOM **Calibration Date:** 11-May-12 19:49:27
Software Version: WL INSITE R3.4.2 (Build 2) **Calibration Version:** 1

Logging Source S/N: DSN_439
Snow Block S/N: 336

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0835	0.0916	0.0080	+/- 0.0150

PASS/FAIL SUMMARY	
Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

DENSITY CALIPER SHOP CALIBRATION

Tool Name: SDLT - I947M315P774

Reference Calibration Date: 22-Apr-12 22:04:02

Engineer: BOMAR

Calibration Date: 22-Apr-12 22:09:21

Software Version: WL INSITE R3.4.2 (Build 2)

Calibration Version: 1

CALIBRATION COEFFICIENTS

Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-1841.81	-1782.38	-7000.00 - -1000.00
Pad Gain	0.0003752	0.0003738	0.000200 - 0.000600
Arm Offset	-801.46	-810.35	-5000.00 - 3000.00
Arm Gain	0.0005124	0.0005071	0.000300 - 0.000700
Arm Power	-0.000004895	-0.000004564	-0.000010 - 0.000010

The ring diameter is computed from: $DIAMETER = PAD\ EXTENSION + ARM\ EXTENSION + TOOL\ DIAMETER$

Tool Diameter: 4.50 in

CALIBRATION RINGS

Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
PAD EXTENSION:				
Small Ring (in)	1.99	2.00	0.01	+/- 0.20
Medium Ring (in)	3.74	3.75	0.01	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.50	6.50	0.00	+/- 0.20
Medium Ring (in)	8.26	8.25	-0.01	+/- 0.20
Large Ring (in)	15.00	15.00	0.00	+/- 0.20

PASS/FAIL SUMMARY

Calibration-Coefficients Range Check: Passed
 Ring-Measurement Check: Passed

PASS/FAIL SUMMARY

Calibration-Coefficients Range Check: Passed

SDLT CALIPER FIELD CALIBRATION

Tool Name: SDLT - I947M315P774

Reference Calibration Date: 22-Apr-12 22:09:21

Engineer: J. BOLLLOM

Calibration Date: 11-May-12 19:53:07

Software Version: WL INSITE R3.4.2 (Build 2)

Calibration Version: 1

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.82	0.07	+/- 0.10
Ring Diameter	8.25	8.40	0.15	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check: Passed
 Diameter Check: Passed

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT Pad - I947M315P774

Reference Calibration Date: 22-Apr-12 21:22:42

Engineer: BOMAR

Calibration Date: 22-Apr-12 21:41:22

Software Version: WL INSITE R3.4.2 (Build 2)

Calibration Version: 1

Logging Source S/N: 5155GW

Aluminum Block S/N: FTSM

Density: 2.581g/cc

Pe: 3.170

Measurement Block S/N: FTSM

Density: 1.987g/cc

Pe: 0.504

DENSITY CALIBRATION SUMMARY				
Measurement	Previous Value	New Value	Control Limit	
Near Bar Gain	1.0272	1.0694	0.90 - 1.10	
Near Dens Gain	1.0112	1.0392	0.90 - 1.10	
Near Peak Gain	1.0148	1.0759	0.90 - 1.10	
Near Lith Gain	1.0312	1.0696	0.90 - 1.10	
Far Bar Gain	1.0071	1.0141	0.90 - 1.10	
Far Dens Gain	0.9946	1.0004	0.90 - 1.10	
Far Peak Gain	0.9935	0.9968	0.90 - 1.10	
Far Lith Gain	0.9769	0.9832	0.90 - 1.10	
<hr/>				
Near Bar Offset	-0.0345	-0.4249	NONE	
Near Dens Offset	0.1079	-0.1425	NONE	
Near Peak Offset	0.0659	-0.4461	NONE	
Near Lith Offset	-0.0848	-0.4076	NONE	
Far Bar Offset	0.0469	-0.0184	NONE	
Far Dens Offset	0.1515	0.0965	NONE	
Far Peak Offset	0.1480	0.1189	NONE	
Far Lith Offset	0.2684	0.2153	NONE	
<hr/>				
Near Bar Background	965.72	965.05	700 - 1450	
Near Dens Background	317.86	316.79	230 - 480	
Near Peak Background	139.53	138.63	100 - 210	
Near Lith Background	167.79	170.51	125 - 260	
Far Bar Background	522.89	523.46	450 - 900	
Far Dens Background	204.89	202.03	175 - 345	
Far Peak Background	80.59	80.91	70 - 140	
Far Lith Background	84.14	83.68	75 - 145	

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.687	1.687	0.000	+/- 0.015
Pe	2.553	2.553	0.000	+/- 0.150
ALUMINUM				
Density (g/cc)	2.580	2.581	0.001	+/- 0.01500
Pe	3.117	3.125	0.008	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0005	+/- 0.0110	0.0001	+/- 0.0140
Magnesium Block	0.0001	+/- 0.0110	0.0009	+/- 0.0140
Aluminum Block	0.0004	+/- 0.0110	0.0008	+/- 0.0140
Resolution	9.34	6.00 - 11.50	9.11	6.00 - 11.50
Internal Verifier(B+D+P+L)	1591	1200 - 2700	890	800 - 1700

PASS/FAIL SUMMARY

Background Quality Check:

Passed

Background Range Check:	Passed
Background Resolution Check:	Passed
Background Verification Check:	Passed
Magnesium Quality Check:	Passed
Aluminum Quality Check:	Passed
Gains Check:	Passed
Changes in Calibration Blocks:	Passed

SPECTRAL DENSITY FIELD CHECK

Tool Name: SDLT Pad - I947M315P774	Reference Calibration Date: 22-Apr-12 21:41:22
Engineer: J. BOLLUM	Calibration Date: 11-May-12 19:46:07
Software Version: WL INSITE R3.4.2 (Build 2)	Calibration Version: 1

Pad Temperature: 74.7 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1590.987	1591.332	0.345	16.042
Far (B+D+P+L) cps	890.080	905.410	15.330	16.251
Near Resolution	9.34	9.62	0.280	0.50
Far Resolution	9.11	9.65	0.540	1.00

PASS/FAIL SUMMARY

Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11021039						
Gamma Ray Calibrator	238.1	238.8	-----	-0.7	+/- 9.00	api
DSNT-11023947						
Snow-Block Porosity	0.0835	0.0916	-----	-0.0081	+/- 0.0150	decP
SDLT-I947M315P774						
Pad Extension	3.75	3.82	-----	-0.07	+/-0.10	in
Ring Diameter	8.25	8.40	-----	-0.150	+/-0.15	in
SDLT Pad-I947M315P774						
Near(B+D+P+L)	1590.987	1591.332	-----	-0.345	+/-16.042	cps
Far(B+D+P+L)	890.080	905.410	-----	-15.330	+/-16.251	cps

Data: DANIEL SON 25 340001 GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRTIDLE

Date: 11-May-12 21:50:13



PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP	-----				
	SHARED	BS	Bit Size	8.750	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.100	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	0.00	ppm

SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
SHARED	RMUD	Mud Resistivity	2.000	ohmm
SHARED	TRM	Temperature of Mud	75.0	degF
SHARED	CSD	Logging Interval is Cased?	No	
SHARED	ICOD	AHV Casing OD	5.500	in
SHARED	ST	Surface Temperature	75.0	degF
SHARED	TD	Total Well Depth	5245.00	ft
SHARED	BHT	Bottom Hole Temperature	200.0	degF
SHARED	SVTM	Navigation and Survey Master Tool	IDT	
SHARED	AZTM	High Res Z Accelerometer Master Tool	IDT	
SHARED	TEMM	Temperature Master Tool	NONE	
SHARED	BHSM	Borehole Size Master Tool	NONE	
Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GRSO	Gamma Tool Standoff	0.000	in
GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
DSNT	DNOK	Process DSN?	Yes	
DSNT	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Limestone	
DSNT	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
DSNT	DNTP	Temperature Correction Type	None	
DSNT	DPRS	DSN Pressure Correction Type	None	
DSNT	SHCO	View More Correction Options	No	
DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	LHWT	Logging Horizontal Water Tank?	No	
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT Pad	DNOK	Process Density?	Yes	
SDLT Pad	DNOK	Process Density EVR?	No	
SDLT Pad	CB	Logging Calibration Blocks?	No	
SDLT Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT Pad	DTWN	Disable temperature warning	No	
SDLT Pad	DMA	Formation Density Matrix	2.710	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
IDT	WRTI	Survey Writing Interval	30	ft
IDT	SOPT	Smoothing Option	None	
ICT	CLOK	Process Caliper Outputs?	Yes	
ICT	NAVS	Navigation Source Tool	IDT	
Wavesonic-I	WSOK	Process WSTT?	Yes	
Wavesonic-I	MSWN	Monopole Sliding Window Length	-1.00	us
Wavesonic-I	DSWN	Dipole Sliding Window Length	-1.00	us
Wavesonic-I	PINT	Process 1 Sample and Skip	0	

Wavesonic-I	PROM	Process Mode: M=1,MX=2,MY=3,MXY=4	4	
Wavesonic-I	SMTH	Semblance Smoothing	-2.00	
Wavesonic-I	DTSH	Delta -T Shale	100.00	uspf
Wavesonic-I	DTMT	Delta -T Matrix Type	User define	
Wavesonic-I	DTMA	Delta -T Matrix	47.60	uspf
Wavesonic-I	DTFL	Delta -T Fluid	189.00	uspf
Wavesonic-I	RHOM	Matrix Density	2.7100	g/cc
Wavesonic-I	RHOF	Fluid Density	1.0000	g/cc
Wavesonic-I	STOL	Slow Tolerance	40.00	
Wavesonic-I	SMTL	Semblance Tolerance	0.25	
Wavesonic-I	SMTL	Semblance Threshold	0.25	
Wavesonic-I	VPVS	VPVS Ratio for Porosity	1.40	
Wavesonic-I	APEQ	Acoustic Porosity Equation	Wylie	
Wavesonic-I	SHAO	Show Advanced Options?	Yes	
Wavesonic-I	WRNM	Wavesonic Receiver Normalization Method	None	
Wavesonic-I	DTRM	Transmitter to First Receiver Distance - Monopole	10.24	ft
Wavesonic-I	DTRX	Transmitter to First Receiver Distance Dipole X	9.24	ft
Wavesonic-I	DTRY	Transmitter to First Receiver Distance Dipole Y	9.24	ft
Wavesonic-I	DIRM	Receiver Spacing	0.50	ft
Wavesonic-I	NRAM	Number of Receivers in Array	8	
Wavesonic-I	DWCM	Digitizer Word Count Monopole	400	
Wavesonic-I	DSIM	Digital Sample Interval - Monopole	20.3174	us
Wavesonic-I	WDDM	Waveform Recording Delay Monopole	-304.761	us
Wavesonic-I	DWCX	Digitizer Word Count Dipole X	400	
Wavesonic-I	DSIX	Digital Sample Interval Dipole X	40.635	us
Wavesonic-I	WDDX	Waveform Digitization Delay Dipole X	-304.761	us
Wavesonic-I	DWCY	Digitizer Word Count Dipole Y	400	
Wavesonic-I	DSIY	Digital Sample Interval Dipole Y	40.635	us
Wavesonic-I	WDDY	Waveform Digitization Delay Dipole Y	-304.761	us
Wavesonic-I	NAVS	Navigation Source Tool	IDT	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
ACRt Sonde	TPOS	Tool Position	Free Hanging	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	

BOTTOM

Data: DANIELSON_25_340001 GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRTIDLE

Date: 11-May-12 21:49:00



INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel				
TENS	Tension	0.00	NO	
CH_HOS				
DHTN	Downhole Tension	0.00	BLK	0.000
GTET				
TPUL	Tension Pull	102.94	NO	

GR	Natural Gamma Ray API	102.94	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	102.94	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	102.94	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
DSNT				
TPUL	Tension Pull	92.70	NO	
RNDS	Near Detector Telemetry Counts	92.80	BLK	1.417
RFDS	Far Detector Telemetry Counts	93.55	TRI	0.583
DNTT	DSN Tool Temperature	92.80	NO	
DSNS	DSN Tool Status	92.70	NO	
ERND	Near Detector Telemetry Counts EVR	92.80	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	93.55	BLK	0.000
ENTM	DSN Tool Temperature EVR	92.80	NO	
SDLT				
TPUL	Tension Pull	82.80	NO	
PCAL	Pad Caliper	82.80	TRI	0.250
ACAL	Arm Caliper	82.80	TRI	0.250
IDT				
TPUL	Tension Pull	67.73	NO	
ACCX	Accelerometer X	67.73	NO	
ACCY	Accelerometer Y	67.73	NO	
ACCZ	Accelerometer Z	67.73	NO	
MAGX	magnetometer x with unit	67.73	NO	
MAGY	Magnetometer Y with unit	67.73	NO	
MAGZ	magnetometer z with unit	67.73	NO	
IAMP	Accelerometer Temperature	67.73	NO	
MTMP	Magnetometer Temperature	67.73	NO	
ICT				
TPUL	Tension Pull	56.69	NO	
	Arm Potentiometer excitation V	53.90	NO	
	Caliper 1 measurement	56.69	BLK	1.250
	Caliper 2 measurement	56.69	BLK	1.250
	Caliper 3 measurement	56.69	BLK	1.250
	Caliper 4 measurement	56.69	BLK	1.250
	Caliper 5 measurement	56.69	BLK	1.250
	Caliper 6 measurement	56.69	BLK	1.250
	Caliper Global measurement	56.69	BLK	1.250
MOTI	Motor Current	53.90	NO	
MOT1	Motor Voltage Monitor 1	53.90	NO	
STA1	Status word #1	53.90	NO	
STA2	Status word #2	53.90	NO	
PRES	Caliper percentage of total compression of the spring	53.90	NO	
HAZI	Hole Azimuth	56.69	NO	
RB	Relative Bearing	56.69	NO	
AZI1	PAD1 Azimuth	56.69	NO	
DEVI	Inclination	56.69	NO	
Wavesonic-I				
TPUL	Tension Pull	31.33	NO	
DPSX	Dipole Source X Structurel	19.83	NO	
DPSY	Dipole Source Y Structurel	19.83	NO	

DPSM	Monopole Source Structure	19.83	NO
WVST	Wavesonic Compressed Data	31.33	NO
TPUL	Tension Pull	31.33	NO
XMS1	Wave Sonic Status Word 1	19.83	NO
XMS2	Wave Sonic Status Word 2	19.83	NO
XMS1	Wave Sonic XMITStatus Word 1	19.83	NO
XMS1	Wave Sonic XMITStatus Word 2	19.83	NO
F1HA	Dipole 1 HV After	19.83	NO
F1HB	Dipole 1 HV Before	19.83	NO
F2HA	Dipole 2 HV After	19.83	NO
F2HB	Dipole 2 HV Before	19.83	NO
F3HA	Monopole HV After	19.83	NO
F3HB	Monopole HV Before	19.83	NO
INVT	Input Voltage	19.83	NO
5VOL	5 Volts	19.83	NO
MI5A	Minus 5 Volts Analog	19.83	NO
ITMP	Instrument Temperature	19.83	NO
PL5A	Plus 5 Volts Analog	19.83	NO
5VD	Plus 5 Volts Digital	19.83	NO
TCUR	Tool Current	19.83	NO
SUPV	Supply Voltage	19.83	NO
PRVT	Preregulated voltage	19.83	NO
PRVT	Pre-regulated voltage Xmter	19.83	NO
TEMP	Temperature	19.83	NO
ACQN	Acquisition Number	19.83	NO
XDP	Delay Reference	31.33	NO
MITM	MIT Mode	31.33	NO
VERS	Version	19.83	NO
D1CT	Dipole 1 Compressed Word Count	31.33	NO
D2CT	Dipole 2 Compressed Word Count	31.33	NO
MCNT	Monopole Compressed Word Count	31.33	NO
SEQN	Sequence Number	19.83	NO
FREV	Firmware Revision	19.83	NO
MSMP	Monopole Sample Rate	19.83	NO
MSMP	Dipole Sample Rate	19.83	NO
MFWF	Monopole Firing Waveform	19.83	NO
MFRQ	Monopole Frequency	19.83	NO
MDLY	Monopole Delay	19.83	NO
DXWF	Dipole X Firing Waveform	19.83	NO
XFRQ	Dipole X Frequency	19.83	NO
XDLY	Dipole X Delay	19.83	NO
DYWF	Dipole Y Firing Waveform	19.83	NO
YFRQ	Dipole Y Frequency	19.83	NO
YDLY	Dipole Y Delay	19.83	NO
DPSX	Dipole Source X Structurel	19.83	NO
DPSY	Dipole Source Y Structurel	19.83	NO
DPSM	Monopole Source Structure	19.83	NO
WVST	Wavesonic Compressed Data	31.33	NO
AUTM	Auto Mode	19.83	NO
SONM	tool mode for sonic - 0 for normal or 3 for calibration	19.83	NO
MSL	Monopole Lower Travel Time	31.33	NO
MSH	Monopole Upper Travel Time	31.33	NO
MLFC	Monopole-1 Lower Filter Bandpass Frequency Cut-off	19.83	NO
MUFC	Monopole-1 Upper Filter Bandpass Frequency Cut-off	19.83	NO
DLTT	Dipole Lower Travel Time	19.83	NO

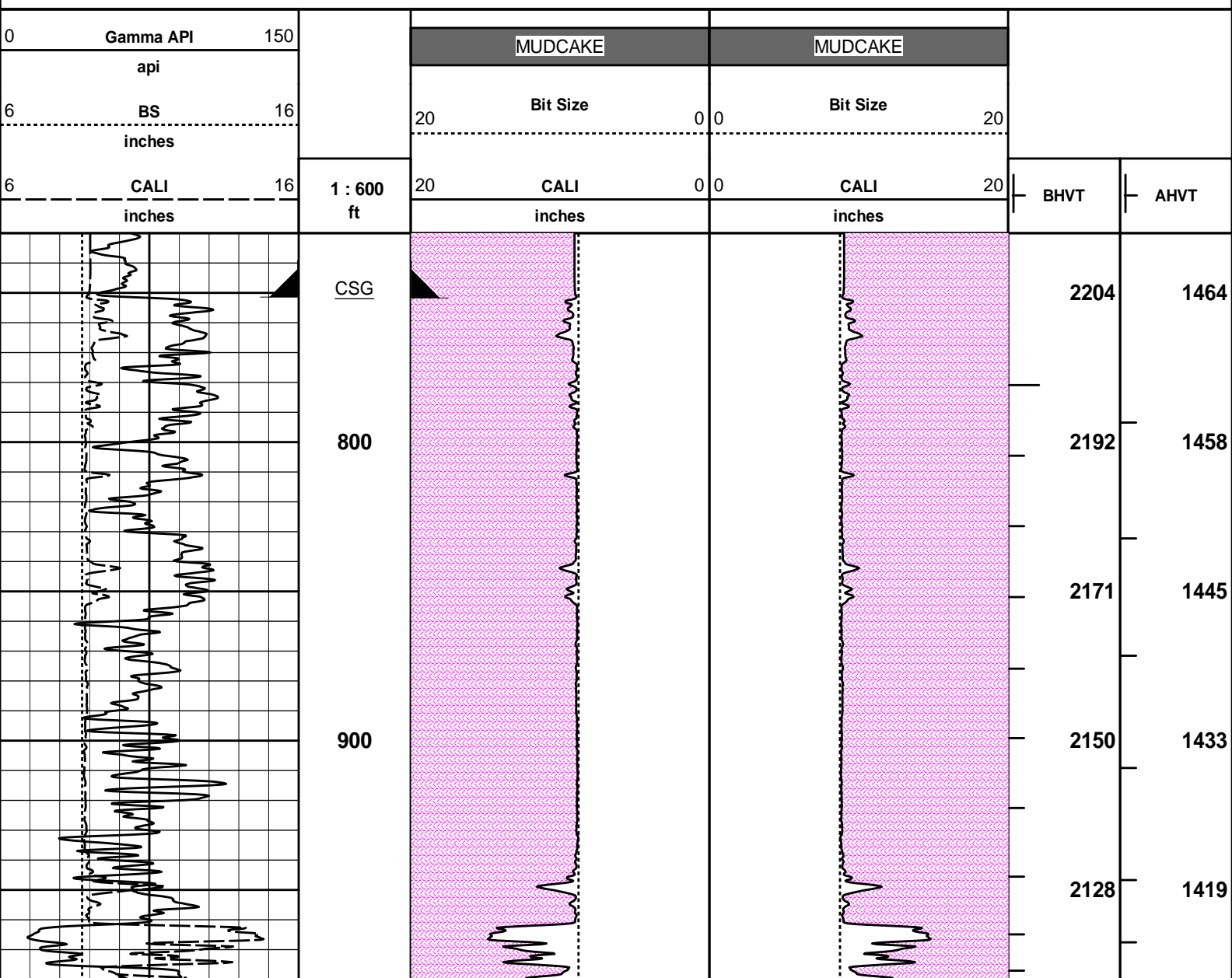
DUTT	Dipole Upper Travel Time	19.83	NO	
DLFC	Dipole Lower Filter Bandpass Frequency Cut-off	19.83	NO	
DUFC	Dipole Upper Filter Bandpass Frequency Cut-off	19.83	NO	
MUTE	WaveSonic Mute/Enable Channels and Sides map	19.83	NO	
MUTS	Mute/Enable Sides	19.83	NO	
WSRB	Relative Bearing	31.33	NO	
WSAZ	WSX Azimuth Pad 1	31.33	NO	
TPUL	Tension Pull	31.33	NO	
WMP	Summed array of Monopole for SIDES - A,B,C,D	31.33	NO	
WXX	Dipole X for SIDES - A-C	31.33	NO	
WYY	Dipole Y for SIDES - B-D	31.33	NO	
WXY	Dipole X for SIDES - B-D	31.33	NO	
WYX	Dipole Y for SIDES - A-C	31.33	NO	
TPUL	Tension Pull	31.33	NO	
WMA	Monopole Waveform Side A - Channel 1 to Channel 8 Receivers	31.33	NO	
WMB	Monopole Waveform Side B - Channel 1 to Channel 8 Receivers	31.33	NO	
WMC	Monopole Waveform Side C - Channel 1 to Channel 8 Receivers	31.33	NO	
WMD	Monopole Waveform Side D - Channel 1 to Channel 8 Receivers	31.33	NO	
WXA	Dipole X Waveform Side A - Channel 1 to Channel 8 Receivers	31.33	NO	
WXB	Dipole X Waveform Side B - Channel 1 to Channel 8 Receivers	31.33	NO	
WXC	Dipole X Waveform Side C - Channel 1 to Channel 8 Receivers	31.33	NO	
WXD	Dipole X Waveform Side D - Channel 1 to Channel 8 Receivers	31.33	NO	
WYA	Dipole Y Waveform Side A - Channel 1 to Channel 8 Receivers	31.33	NO	
WYB	Dipole Y Waveform Side B - Channel 1 to Channel 8 Receivers	31.33	NO	
WYC	Dipole Y Waveform Side C - Channel 1 to Channel 8 Receivers	31.33	NO	
WYD	Dipole Y Waveform Side D - Channel 1 to Channel 8 Receivers	31.33	NO	
ACRt Sonde				
TPUL	Tension Pull	2.97	NO	
F1R1	ACRT 12KHz - 80in R value	9.22	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	9.22	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.72	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.72	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	5.22	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	5.22	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	4.22	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	4.22	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.72	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.72	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.47	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.47	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	9.22	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	9.22	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.72	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.72	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	5.22	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	5.22	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	4.22	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	4.22	BLK	0.000

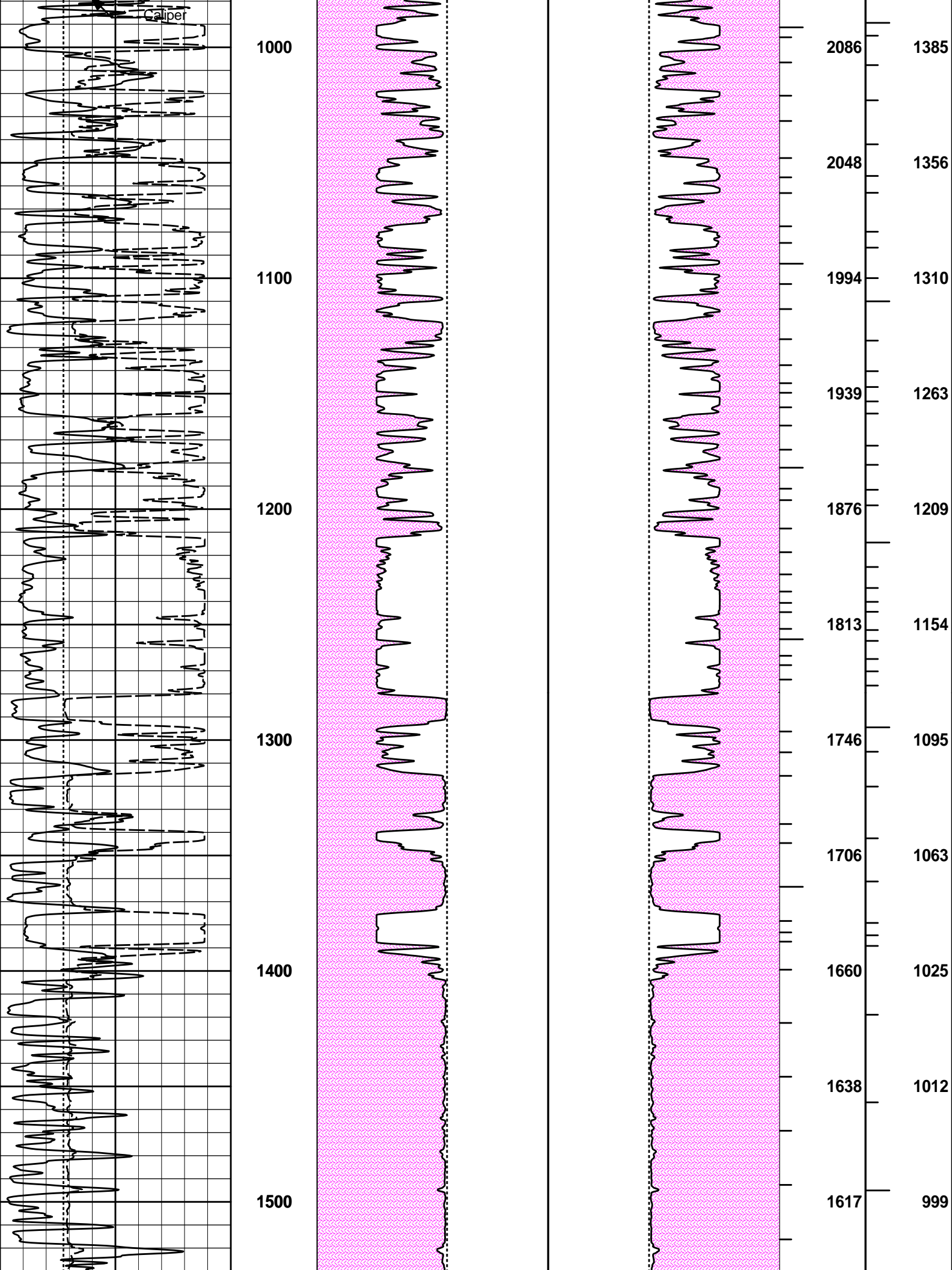
F2R5	ACRT 36KHz - 10in R value	3.72	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.72	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.47	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.47	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	9.22	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	9.22	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.72	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.72	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	5.22	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	5.22	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	4.22	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	4.22	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.72	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.72	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.47	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.47	BLK	0.000
RMUD	Mud Resistivity	12.76	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.97	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.97	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.97	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.97	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.97	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.97	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.97	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.97	BLK	0.000
ITMP	Instrument Temperature	2.97	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.97	NO	
TIDV	Instrument Temperature Derivative	2.97	NO	
TUDV	Upper Temperature Derivative	2.97	NO	
TLDV	Lower Temperature Derivative	2.97	NO	
TRBD	Receiver Board Temperature	2.97	NO	
SDLT Pad				
TPUL	Tension Pull	82.79	NO	
NAB	Near Above	82.61	BLK	0.920
NHI	Near Cesium High	82.61	BLK	0.920
NLO	Near Cesium Low	82.61	BLK	0.920
NVA	Near Valley	82.61	BLK	0.920
NBA	Near Barite	82.61	BLK	0.920
NDE	Near Density	82.61	BLK	0.920
NPK	Near Peak	82.61	BLK	0.920
NLI	Near Lithology	82.61	BLK	0.920
NBAU	Near Barite Unfiltered	82.61	BLK	0.250
NLIU	Near Lithology Unfiltered	82.61	BLK	0.250
FAB	Far Above	82.96	BLK	0.250
FHI	Far Cesium High	82.96	BLK	0.250
FLO	Far Cesium Low	82.96	BLK	0.250
FVA	Far Valley	82.96	BLK	0.250
FBA	Far Barite	82.96	BLK	0.250
FDE	Far Density	82.96	BLK	0.250
FPK	Far Peak	82.96	BLK	0.250
FLI	Far Lithology	82.96	BLK	0.250
PTMP	Pad Temperature	82.80	BLK	0.920
NHV	Near Detector High Voltage	82.19	NO	
FHV	Far Detector High Voltage	82.19	NO	

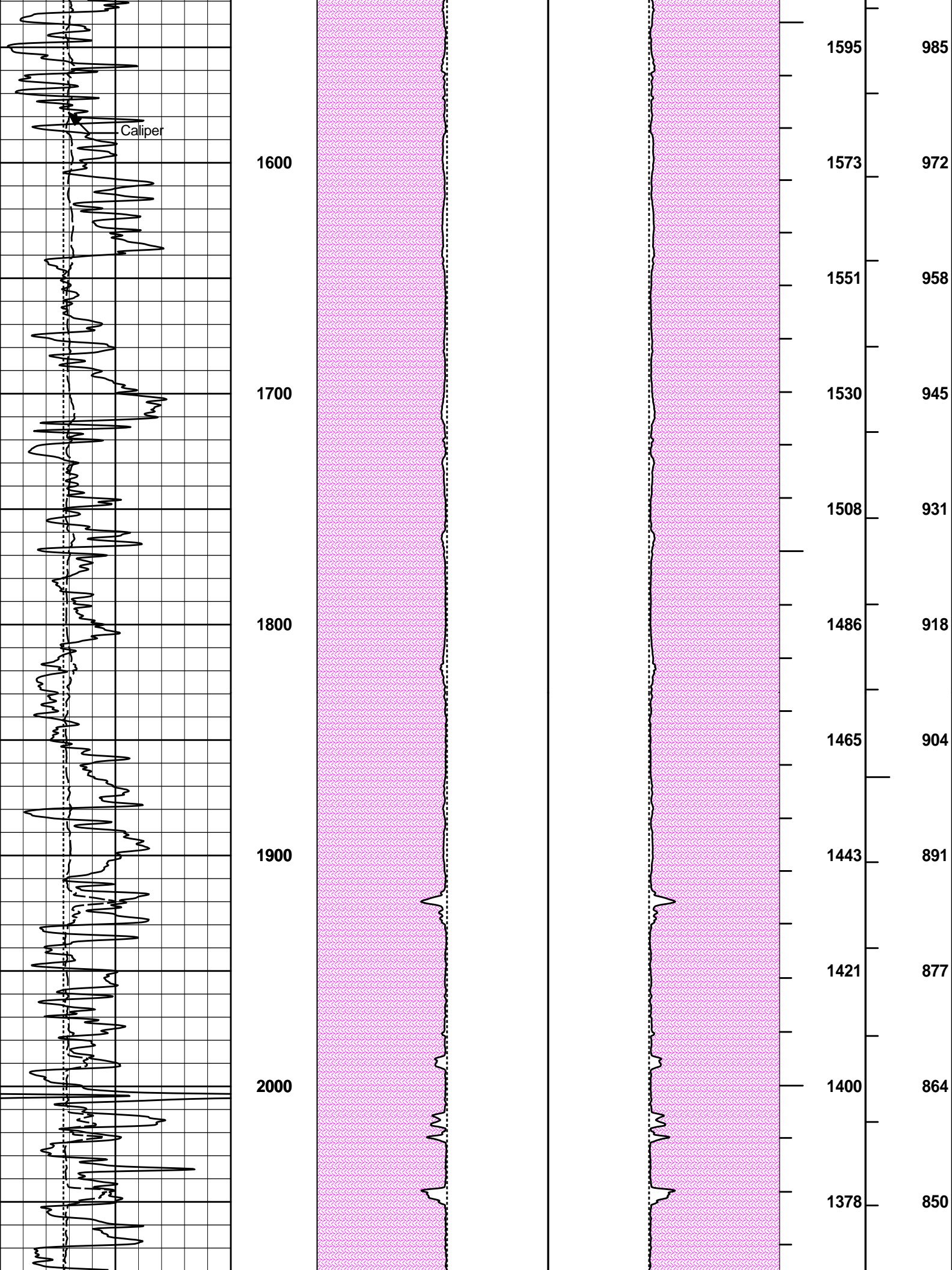
TMP	Instrument Temperature	82.19	NO	
DDHV	Detector High Voltage	82.19	NO	
Microlog Pad				
TPUL	Tension Pull	82.98	NO	
MINV	Microlog Lateral	82.98	BLK	0.750
MNOR	Microlog Normal	82.98	BLK	0.750
SP Ring				
PLTC	Plot Control Mask	1.86	NO	
SP	Spontaneous Potential	1.86	BLK	1.250
SPR	Raw Spontaneous Potential	1.86	NO	
SPO	Spontaneous Potential Offset	1.86	NO	
Data: DANIELSON_25_340001 GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRTVDLE				Date: 11-May-12 21:48:34

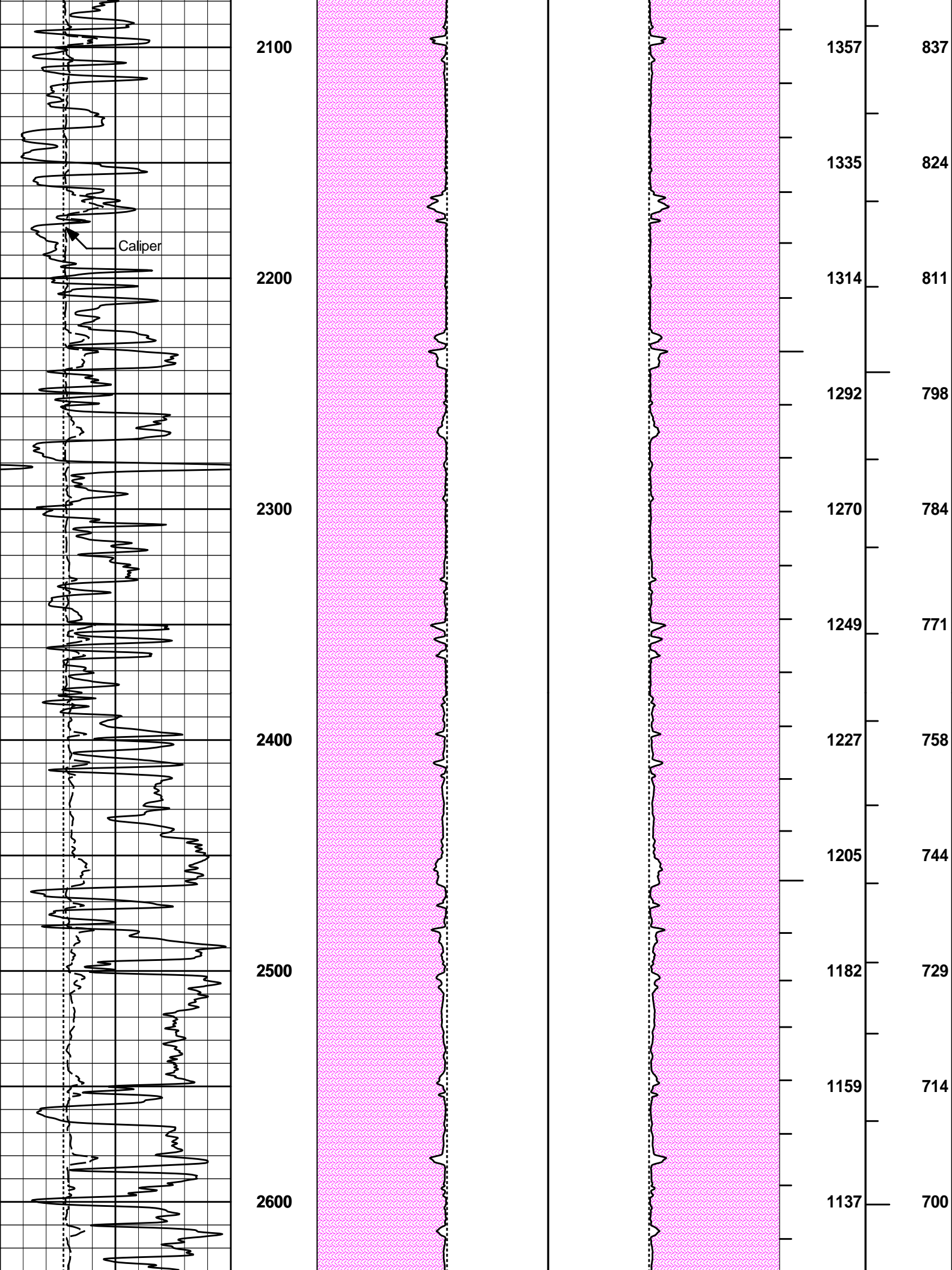
HALLIBURTON Plot Time: 12-May-12 02:00:40
 Plot Range: 730 ft to 5246.33 ft
 Data: DANIELSON_25_34\Well Based\CASING\
 Plot File: \\LOCAL\ DANIELSON_25_340001 GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRT\PORO\AHV_5.5_INCH_2_IQ_LIB

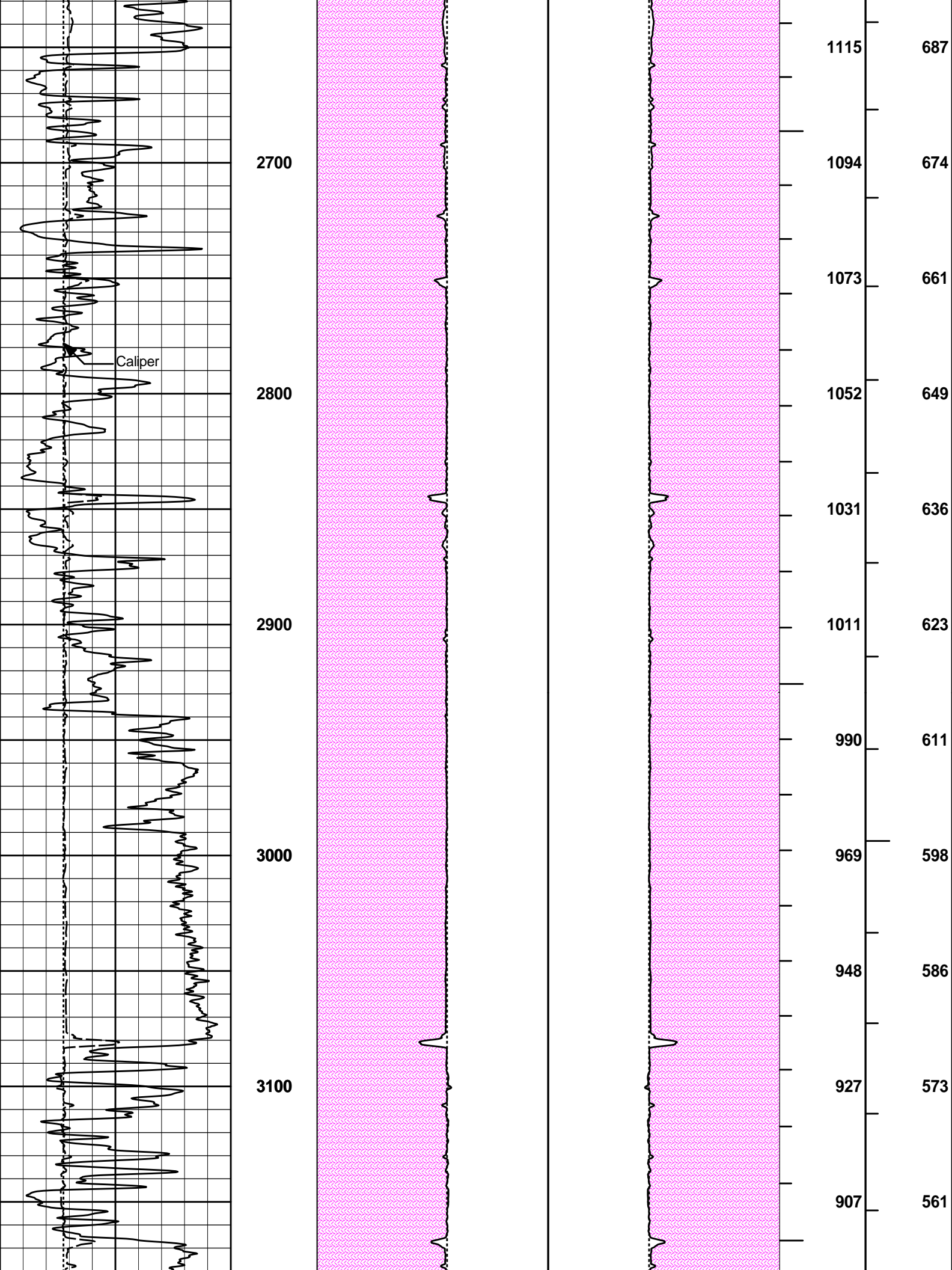
ANNULAR HOLE VOLUME PLOT (5.5 INCH)

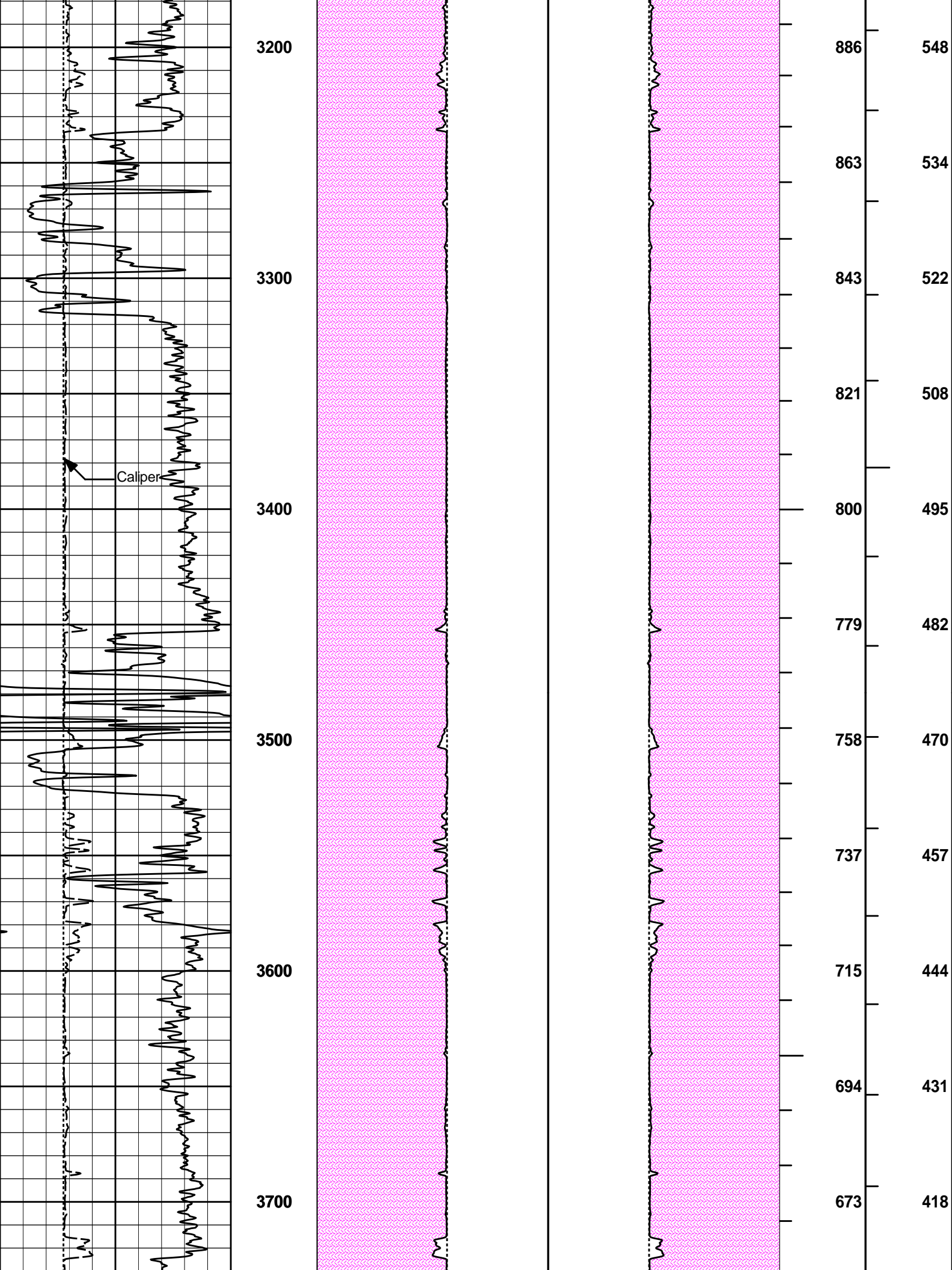


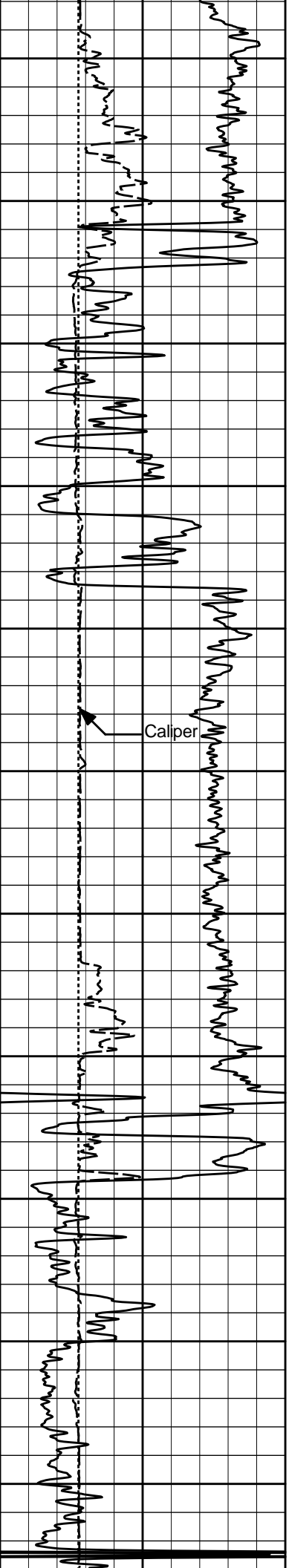












3800

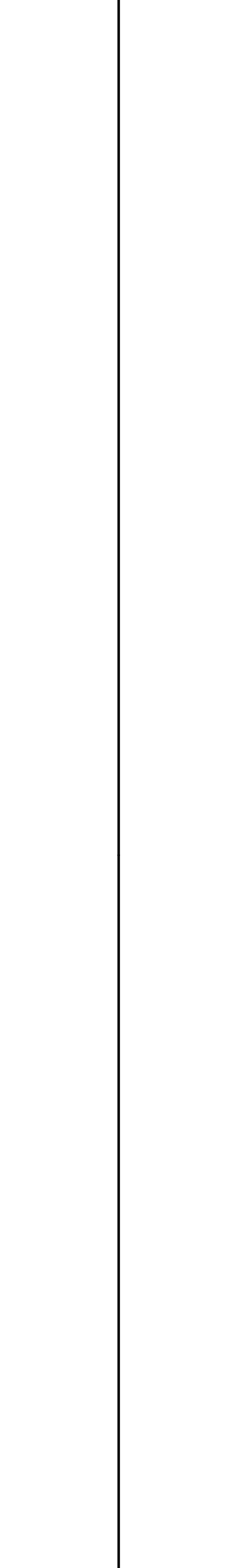
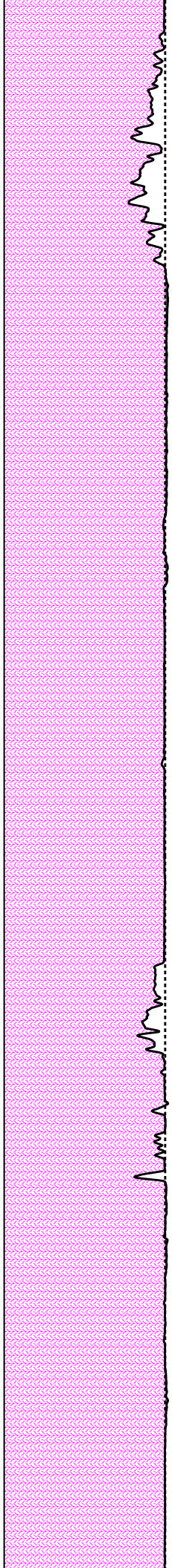
3900

4000

4100

4200

Caliper



652

626

605

586

565

545

524

500

479

459

439

405

387

375

364

352

339

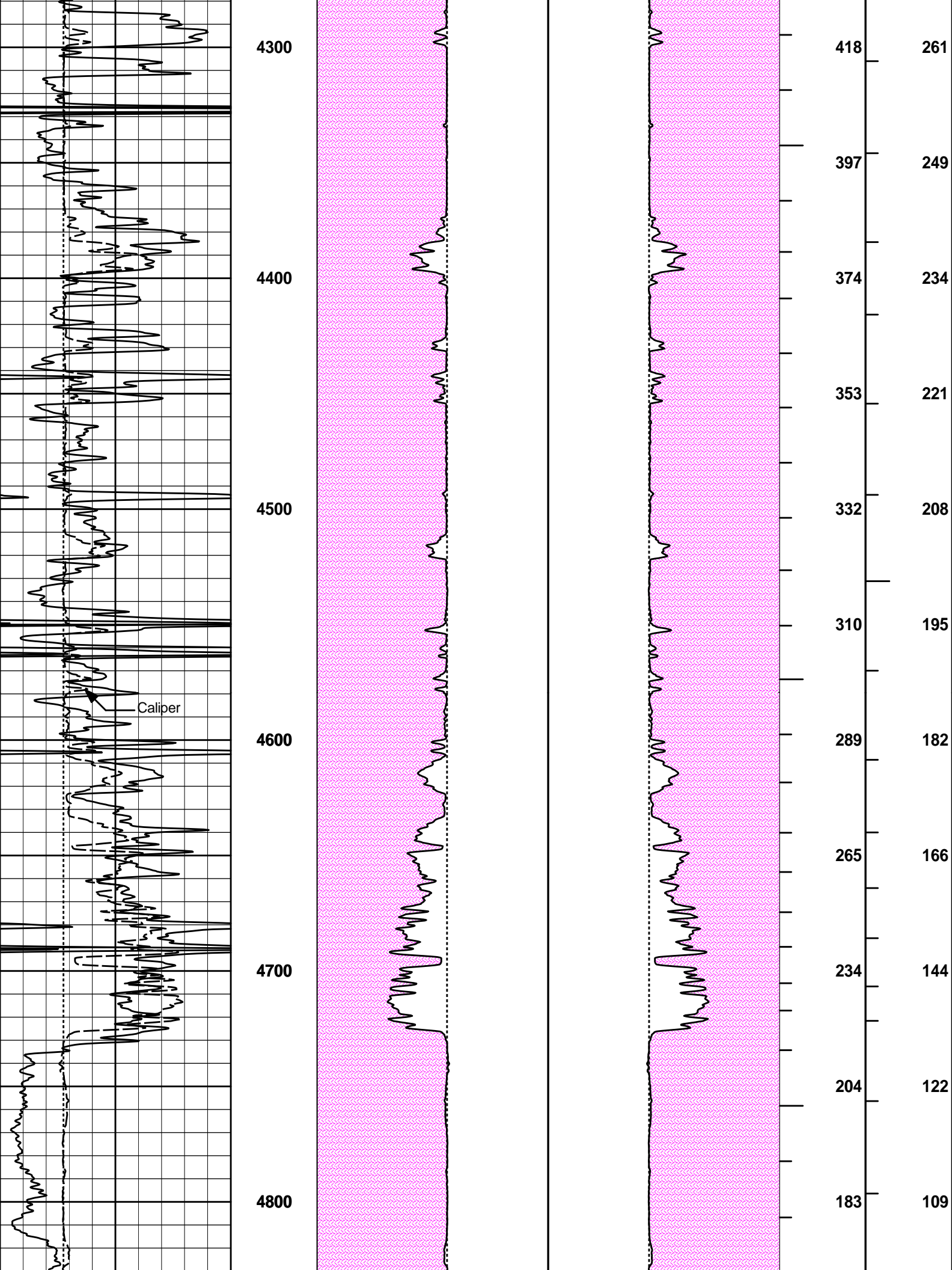
326

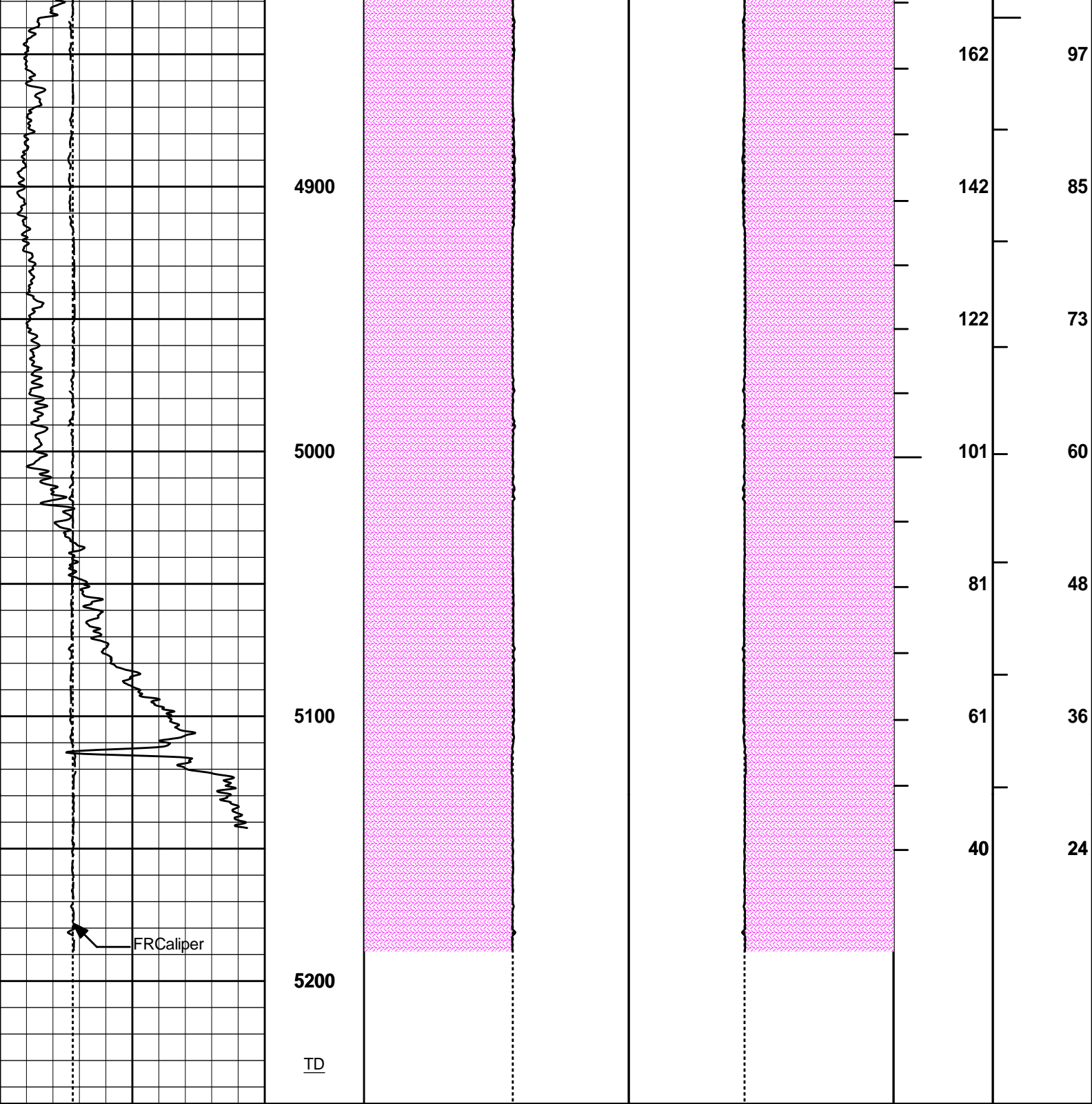
311

298

286

274





6	CALI	16	1 : 600 ft	20	CALI	0 0	20	BHVT	AHVT
	inches				inches				
6	BS	16		20	Bit Size	0 0	20		
	inches								
0	Gamma API	150							
	api								
					MUDCAKE		MUDCAKE		

HALLIBURTON

Plot Time: 12-May-12 02:00:52
 Plot Range: 730 ft to 5246.33 ft
 Data: DANIELSON_25_34\Well Based\CASING\
 Plot File: \\LOCAL-DANIELSON_25_34\0001 GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRT\POROAHV_5_5_INCH_2_IQ_LIB

ANNUAL HOLE VOLUME PLOT (5.5 INCH)

ANNULAR HOLE VOLUME LOG (3.5 INCH)

COMPANY	CHESAPEAKE OPERATING INC		
WELL	DANIELSON 25-34-8 #1H		
FIELD	UNKNOWN		
COUNTY	HARPER	STATE	KANSAS

HALLIBURTON

SPECTRAL DENSITY
DUAL SPACED NEUTRON
LOG